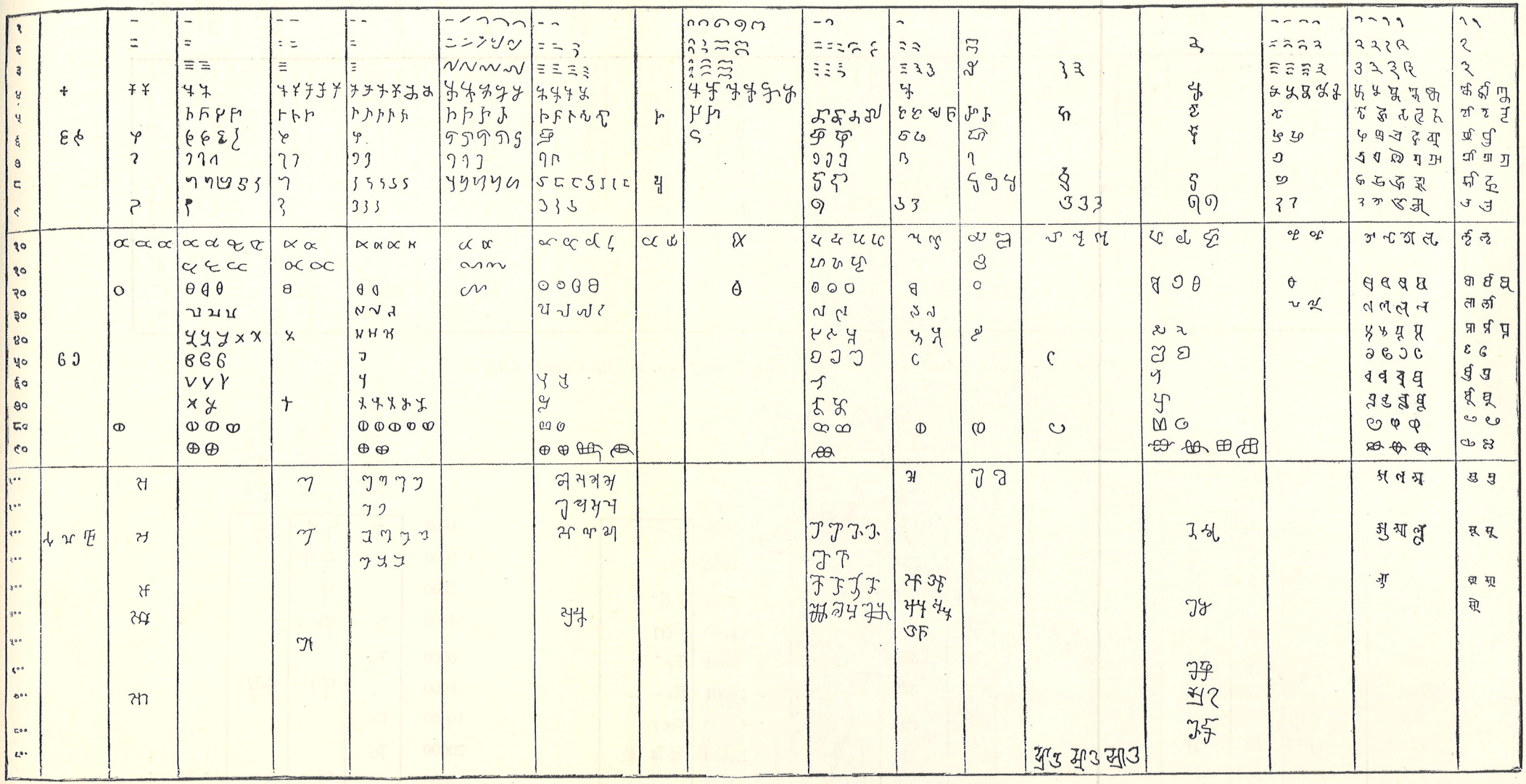

Asoka Inscriptions Third Century B.C.
Nanaghat Inscriptions Second Century B.C.
Mathura Inscriptions of Kushan Kings First and Second Century A.D.
Nasik Cave Inscriptions of Kshatrapa and Andhra Kings Second Century A.D.
Kshatrapa Seals Second to Fourth Century A.D.
Jaggayapeth Inscription and Pallam Grant Deeds Fourth Century A.D.
Gupta and other Inscriptions Fourth to Sixth Century A.D.
Vakatak Grant Deeds Fifth Century A.D.
Pallava and Shalankayan Kings Grant Deeds Fifth and Sixth Century A.D.
Vallabhi Kings Grant Deeds Sixth to Eighth Century A.D.
Nepal Inscription Eighth and Ninth Century A.D.
Kalinga Kings Grant Deeds, Six and Eighth Century A.D.
Pratihar Inscriptions Ninth and Tenth Century A.D.
Grant Deeds of Fifth to Eighth Century A.D.
Bowar MSS. Sixth Century A.D.
Buddhist MSS. from Nepal.
Jain MSS.

Table 29.—**Historical development of figures** (Third century B.C. to Sixth century A.D.)

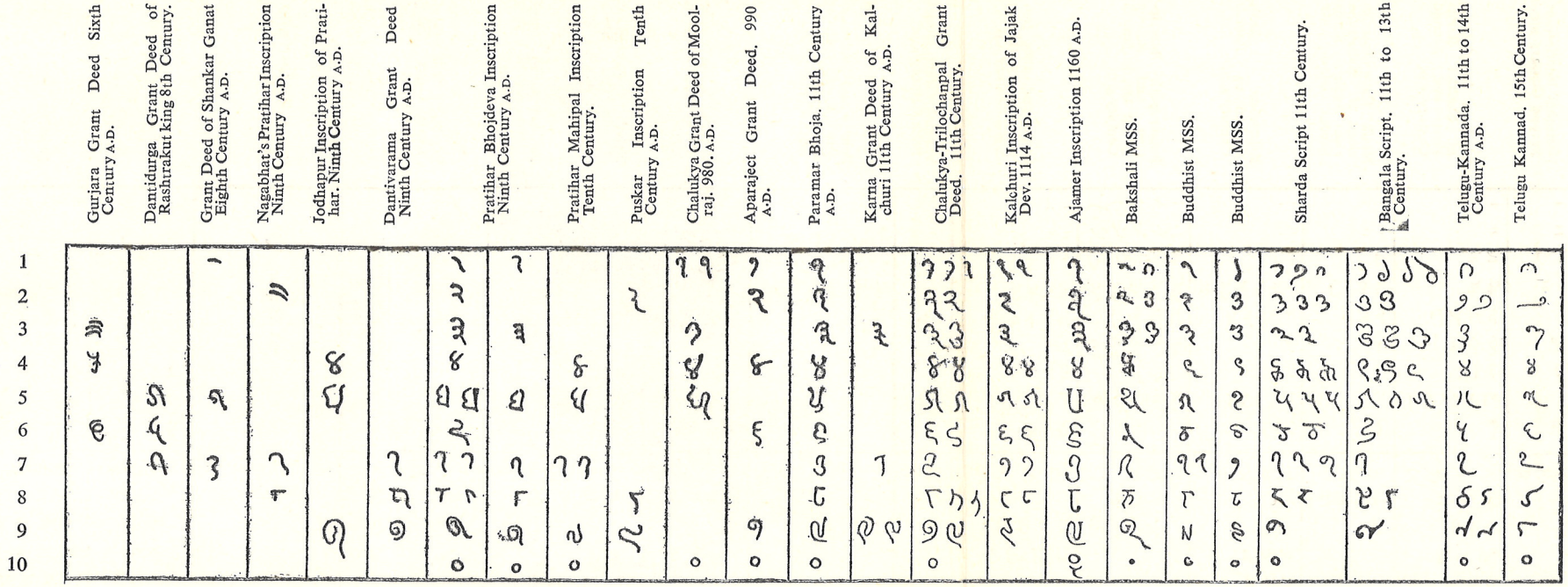

Gurjara Grant Deed Sixth Century A.D.
Dantidurga Grant Deed of Rashtrakut king 8th Century.
Grant Deed of Shankar Ganat Eighth Century A.D.
Nagabhar's Pratihar Inscription Ninth Century A.D.
Jodhapur Inscription of Pratihar. Ninth Century A.D.
Dantivarama Grant Deed Ninth Century A.D.
Pratihar Bhojdeva Inscription Ninth Century A.D.
Pratihar Mahipal Inscription Tenth Century.
Puskar Inscription Tenth Century A.D.
Chalukya Grant Deed of Mooloraj. 980. A.D.
Aparaject Grant Deed. 990 A.D.
Paramar Bhoja. 11th Century A.D.
Karna Grant Deed of Kalchuri 11th Century A.D.
Chalukya-Trilochanpal Grant Deed. 11th Century.
Kalchuri Inscription of Jajak Dev. 1114 A.D.
Ajamer Inscription 1160 A.D.
Bakshali MSS.
Buddhist MSS.
Buddhist MSS.
Sharda Script 11th Century.
Bangala Script. 11th to 13th Century.
Telugu-Kannada. 11th to 14th Century A.D.
Telugu Kannad. 15th Century.
1
2
3
4
5
6
7
8
9
10

Table 30.—**Historical development of figures** (6th Century A.D. to 15th Century A.D.)

Saka, Parthian and Kushan Inscriptions		Asoka Inscriptions	
40	1	1	1
50	2	11	11
60	3	111	
70	4	X	1111
80	5	IX	11111
100	6	11X	
200	7	111X	
300	8	XX	
122	10	2	
244	20	3	

Table 31.—**Kharoshthi Ciphers**

15		126		1001	
28		289		1002	
33		301		1101	
45		428		1700	
52		538		6001	
62		679		10001	
78		703		11000	
81		813		24400	
93		955			

Table 32.—**Mixed Figures in Inscriptions and Grant Deeds.**

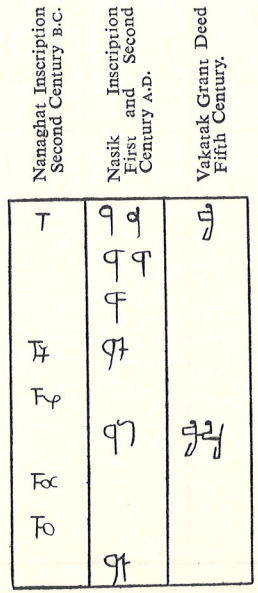


Table 33.—**Symbols used in Inscriptions.**

Part Two

Calligraphy and Typography of Devanagari

(Chapters VI to XI)

CHAPTER VI

DEVANAGARI LIPI

124. The Devanagari alphabet is composed of thirty-four consonants and fourteen vowels. In addition there are two modifiers (vowels) and two consonant-compounds.

Table 34 : **Devanagari Alphabet**

A. CONSONANTS

1. Gutturals (कंठ्य)	क	ख	ग	घ	ङ
	k	kh	g	gh	ṅa
2. Palatals (तालव्य)	च	छ	ज	झ	ञ
	c	ch	j	jh	ñ
3. Cerebrals (मूर्धन्य)	ट	ठ	ड	ढ	ण
	ṭ	ṭh	ḍ	ḍh	ṇ
4. Dentals (दंत्य)	त	थ	द	ध	न
	t	th	d	dh	n
5. Labials (ओष्ठ्य)	प	फ	ब	भ	म
	p	ph	b	bh	m

	Palatals	*Cerebrals*	*Dentals*	*Dento-Labials*
6. Semi Vowels (अंत:स्थ)	य	र	ल	व
	y	r	l	v
7. Sibilants (उष्म)	श	ष	स	
	ś	ṣ	s	
8. Aspirate (उष्म)	ह			
	h			
9. Cerebral (मूर्धन्य)	ळ	10. Compounds	क्ष	ज्ञ
	ḷ		kṣ	dny

B. VOWELS

1. Vowels	अ	आ	इ	ई	उ	ऊ	ऋ	ॠ	ऌ	ॡ	ए	ऐ	ओ	औ
	a	ā	i	ī	u	ū	ṛu	ṛi	ḷ	ḹ	e	ai	o	ou
2. Vowel-signs –	ा	ि	ी	ु	ू	ृ	ॄ	ॢ	ॣ	े	ै	ो	ौ

The basic vowels in Devanagari are classified as :
Short : अ इ उ ऋ ऌ Long : आ ई ऊ ॠ ॡ Compound : ए ऐ ओ औ
Modifiers : Nasal अं Aspirate अः
ऋ is a *trill-vowel*, while ऐ and औ are *diphthongs*, i. e.
अ + इ = ऐ अ + ऊ = औ

Note 1—The Semi-vowels य व र ल are derived from इ उ ऋ ऌ respectively and are therefore written in that order also.

Note 2—क्ष is conjunct of क् and ष, and ज्ञ is conjunct of ज्, ञ् and य or ग् and ञ. They are separately listed, as their compounds take a different graphic form. On the same analogy त्र, conjunct of त् and र, and श्र conjunct of श् and र, are required to be added to the list of the *mūlaksaras*. It has, however, been suggested by some grammarians that क्ष and ज्ञ may be dropped from the list of consonants.[1]

Note 3—The *anusvāra* (ं) and the *visarga* (ः) are not vowels ; they are known as *Ayoga-vāha* (अयोगवाह) in Sanskrit.

Note 4—Nasalisation of the vowel, *anunāsika*, is represented by a crescent and a dot ँ (i.e. ॐ)

Note 5—The *Kānā* or verti-bar representing vowel अ, is inherent in all graphemes of consonants and hence the vowel-sign for अ is not shown.

Graphic Classification of Devanagari

125. The vowels and consonants can be classified graphically under five groups based on the position of the *Kānā* or the verti-bar :

Table 35 : **Graphic Classification of Devanagari Varnas**

	Vowels	*Consonants*	
Group 1	letters	with full verti-bar *attached* (अंत्यदंडयुक्त)	20
	अ	ख घ च ज झ त थ ध न प ब भ म य व ष स क्ष ज्ञ	
Group 2	letters	with full verti-bar *detached* (अंत्यदंडयुक्त)	3
		ग ण श	
Group 3	letters	with a short-bar (अल्पदंडयुक्त)	14
	उ ऊ ऌ ॡ	ङ छ ट ठ ड ढ द ल ह ळ	
Group 4	letters	with a central-bar (मध्यदंडयुक्त)	4
	ऋ ॠ	क फ	
Group 5	letter	without a bar (दंडरहित)	1
		र	

The inherent vowel अ, as stated in para 126 below, is represented by the verti-bar, which is present in full form, on the right, in the first and the second groups of consonants. In the third group it takes a form of a small joint to the head-line and can be called a ' quarter verti-bar '. In the fourth group, the verti-bar cuts through the consonantal grapheme and can be called ' central verti-bar '. The consonant in the fifth group is an exception to the rule; its alternate form र is with a verti-bar.

Vowel-Signs or Mātrās

126. *Consonants modified by Vowel-signs* (*Mātrās*) : In the Devanagari script, unlike the Roman script, the vowels change their forms when preceded by the consonants, to form a full letter. The forms which the vowels assume, are called *Mātrās** or vowel-signs. They are distinguished by names as shown hereunder :

Table 36 : **Vowel-signs and their Names**

Vowel	*Mātrā*	Name	Vowel	*Mātrā*	Name
अ	inherent in the consonant.		ऌ	ॢ	Single *klpti* sign
आ	ा	*Kānā*	ॡ	ॣ	Double *klpti* sign
इ	ि	Short *velānṭi*	ए	े	Single *mātrā*
ई	ी	Long *velānṭi*	ऐ	ै	Double *mātrā*
उ	ु	Short *ukār*	ओ	ो	*Kānā-mātrā*
ऊ	ू	Long *ukār*	औ	ौ	*Kānā*, double *mātrā*
ऋ	ृ	Single *pṛthvi* sign	अं	ं	*Anuswār*
ॠ	ॄ	Double *pṛthvi* sign	अः	ः	*Visarga.*

As already stated the vowel अ is inherent in each consonant, except when a consonant is combined with some other vowel, or when it is succeeded by a consonant to form a conjunct. The consonant without the vowel अ is indicated by placing the *halanta* or vowel ending sign under it, thus : क minus अ = क्. When a vowel ending word is followed by another word with initial अ or आ, it is replaced by a separation sign *Avagrāha* ऽ (ते+अपि=तेऽपि ; सदा+आत्मन्=सदाऽऽत्मन्.)

127. The transformation of the vowels into *Mātrās* in letters affects the pronunciation. For instance ई in कई बार (kaī bar) is not the same as ई in किसकी (kiskī). In the former example ई is a vowel and in the latter it is a *Mātrā* or vowel-sign. Similar distinction is also made in the English pronunciation, but is not graphically distinguishable, resulting in the inevitability of the spelling system. The *Mātrās* in Devanagari embrace the consonant from all sides and their placings have distinct meanings. The vowel-sign of *Velānṭi-kānā*, ी in की, not only indicates the addition of ई but also subtraction of अ inherent in the form क. Obviously it is not necessary to subtract अ from क in the word कई. The subtraction of अ from the first consonant in a simple conjunct is, however, required to be indicated either by removing the verti-bar as in case of न in अन्न, using *halanta* as in case of द् in बुद्धी or cutting a small portion as in case of क in वाक्य. The *Mātrās* or vowel-signs, in

*The term *Mātrā* with capital *M* is used to denote all the vowel signs while *mātrā* with small *m* is used for only vowel signs of ए and ऐ.

effect, modify the pronunciation of the letter and work as diacritics. There is nothing wrong in placing the *Mātrās* on all sides of the consonants. The short vowels are represented by vowel-signs either placed on the left (ि) or are designed to indicate left movement (ॅ) (ॆ).

Series Modulation of Consonants : Barakhadi (बाराखडी)

128. The Devanagari script, as its name implies, was standardised for writing Sanskrit, which is known as *Deva-Vāni*, the tongue of Gods. '. . . though Sanskrit devised a phonemic alphabet for itself, letters could not be put in free action without some make-shifts. In those early centuries the syllabic form of writing was in vogue and Sanskrit made a clever use of some syllabic devices to infuse mobility in Devanagari letters. Suitable forms of diacritics were devised after syllabic pattern to represent the standard consonantal and vowel graphemes of Sanskrit. *Bārākhadi* or *swarākhadi* is in fact a handy device to coin syllables. Thanks to this *bārākhadi*, one of the most ingenious devices in the history of writing, Devanagari has been able to cut short its structural disadvantage. . . . However, Devanagari has ever since found itself unwittingly bound up in a three-tiered syllabic steel-frame which has enchained its scriptal mobility.'[2] The *bārākhadi* is a special attribute of the Devanagari script, which has resulted in a serious complication in type-setting.

129. The graphic representation of *bārākhadi* of क is explained below :

Table 37 : **Graphic Representation of Barakhadi of क.**

१ क् + अ (-) = क	The *halanta* sign at the foot is dropped to denote the presence of अ
२ क् + आ (ा) = का	*Kānā* (ा) on the right, i.e., after the consonant it vocalizes.
३ क् + इ (ि) = कि	*Kānā* on the left and *velānṭi* on the top (ि). The sign is thus written before the consonant it vocalizes. The vowel is however actually pronounced after the consonant.
४ क् + ई (ी) = की	*Kānā* on the right with *velānṭi* on the top (ी)., i.e., after the consonant it vocalizes.
५ क् + उ (ु) = कु	The symbol short *ukār* (ु) at the foot of the consonant, i.e., under the consonant it vocalizes.
६ क् + ऊ (ू) = कू	The symbol *ūkār* (ू) at the foot of the consonant as above.

७ क् + ऋ (ृ) = कृ	The symbol (ृ) *pṛthvi* sign at the foot.
८ क् + ॠ (ॄ) = कॄ	The symbol (ॄ) at the foot as above.
९ क् + ऌ (ॢ) = कॢ	The vowel-sign (ॢ) *klpti*, placed at the foot.
१० क् + ॡ (ॣ) = कॣ	The vowel-sign (ॣ) placed at the foot.
११ क् + ए (े) = के	One *mātrā* (े) on the top, i.e., over the consonant it vocalizes.
१२ क् + ऐ (ै) = कै	Double *mātrās* (ै) on the top.
१३ क् + ओ (ो) = को	*Kānā* on the right and *mātrā* (ो) on the top.
१४ क् + औ (ौ) = कौ	*Kānā* on the right and two *mātrās* (ौ) on the top.
१५ क् + अं (ं) = कं	*Anuswār* (ं) on the top.
१६ क् + अः (ः) = कः	*Visarga* (ः) on the right, i.e., after the letter.

In case of र the *ukārs* are placed next to the consonant as रु, रू. This method was also followed in case of other consonants like स. It has sarvived only in case of र in which case the alternate forms रु रू are now admitted[3] as optional forms.

Prshtha-Matras

130. It would be interesting to study the historical development of short इ *Mātrā* through the ages.[4] The variants of short इ vowel-sign and its combinations with consonants from old inscriptions are given below :

Table 38 : **Variants of Symbol of इ Matra**

Serial No.	*References*	*Date*	*Consonants*	*Matra sign*	*Method of joining*	*Current Devnagari*
1	Girnar Rock Edict of Asoka	Third century B.C.	न ट ल	ि		नि टि लि
2	Other Edicts of Asoka	„	प य	ि		पि यि
3	Ramagarh and other Inscriptions	Second century B.C.	व	ि		वि
			—			धि
			—			भि
	Bharhut Stup ..	„	—			लि

Serial No.	References	Date	Consonants	Matra sign	Method of joining	Current Devnagari
4	Bhattiprolu Stup Inscription	Second century B.C.	ह क			हि कि
5	Pabhosa and Mathura Inscription	First century A.D.	म — — द			मि कि शि दि
6	Kushan Inscription, Mathura	First century A.D.	थ ण			थि णि
	Sarnath ..	Second century A.D.				णि दि
7	Shaka Ushavadat and his wife Dakshamitra, Nasik	Second century A.D.	त ल			ति लि
8	Kshatrap King Rudradama's Girnar Inscription	Second century A.D.	ध य			धि यि
9	Satavahan Pulumai Inscription, Nasik	„	ग स य			गि सि यि
10	Cave Inscriptions ..	Second to Fourth century A.D.	ल स			लि सि
11	Jaggayyapat ..	Third century A.D.	ध स			धि सि

Serial No.	References	Date	Consonants	Matra sign	Method of joining	Current Devnagari
12	Pallava Shiva-Skand Varman Mayid Volu Grant-deed	Fourth century A.D.	ग			गि
13	Samudra Gupta Allahabad Pillar	Fourth century A.D.	न थ			नि थि
14	Kumargupta Inscriptions and Grant-deed	Fifth century A.D.	थ			थि
15	Mandasor Inscription during the period of Yashodharman	532 A.D.	क ग ण म			कि गि णि मि
16	Kundeswar Inscription Aparajeet of Gohil dynasty Mevar	661 A.D.	न ह क			नि हि की
17	Chamba Inscription of Meru-Varma	Ninth century A.D.	क च			कि चि
18	Jaink Deva's Grant deed	Tenth century A.D.	क व			कि वि
19	Chakradeva's Grant-deed	Eleventh & Twelfth century A.D.	त			ति ती

131. The first example in the above list shows the short इ sign, on the left, not crossing the headline. In the sixth example a change is seen. While the Allahabad Pillar Inscription (Serial No. 13) shows the इ *Mātrā* on the left without crossing the headline, the Mandosar inscription

Table 39. **Development of the Devanagari Vowels and Vowel-signs.** (First century A.D. to Tenth century A.D.)

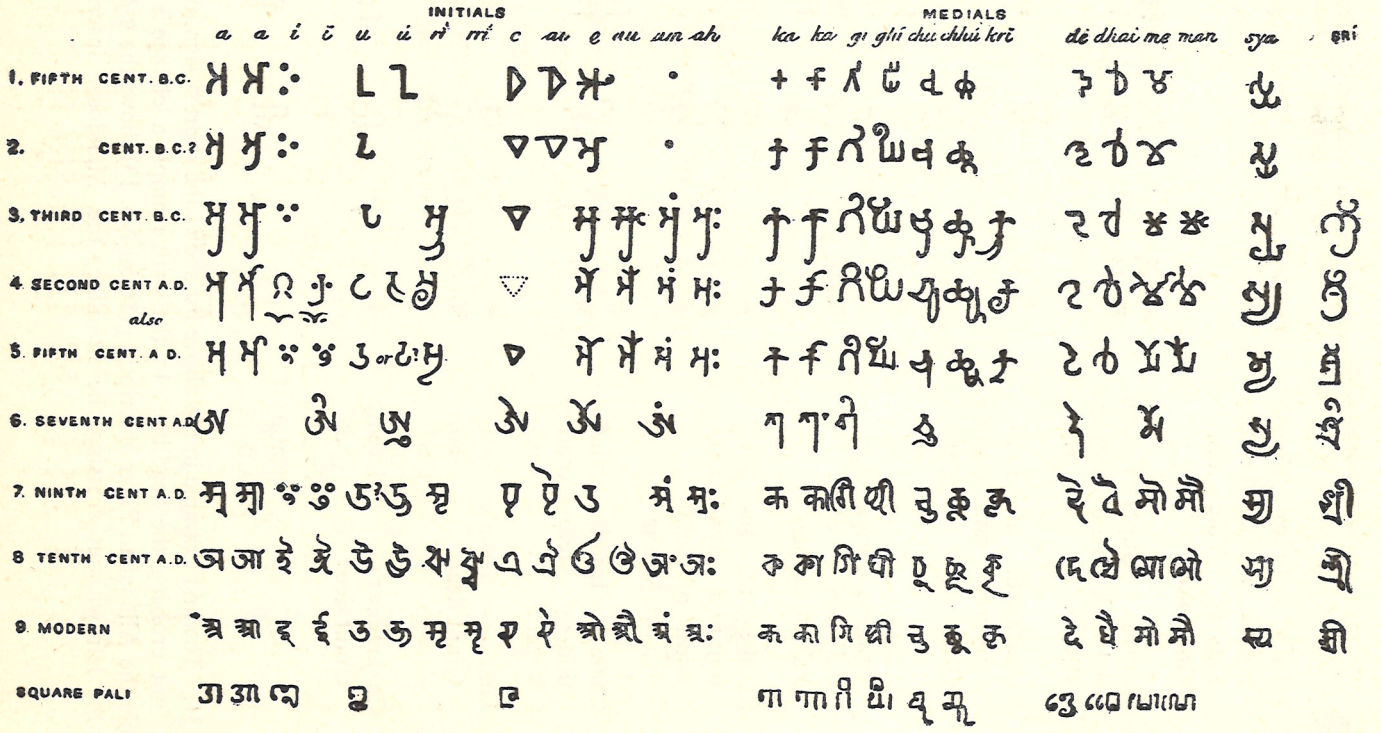
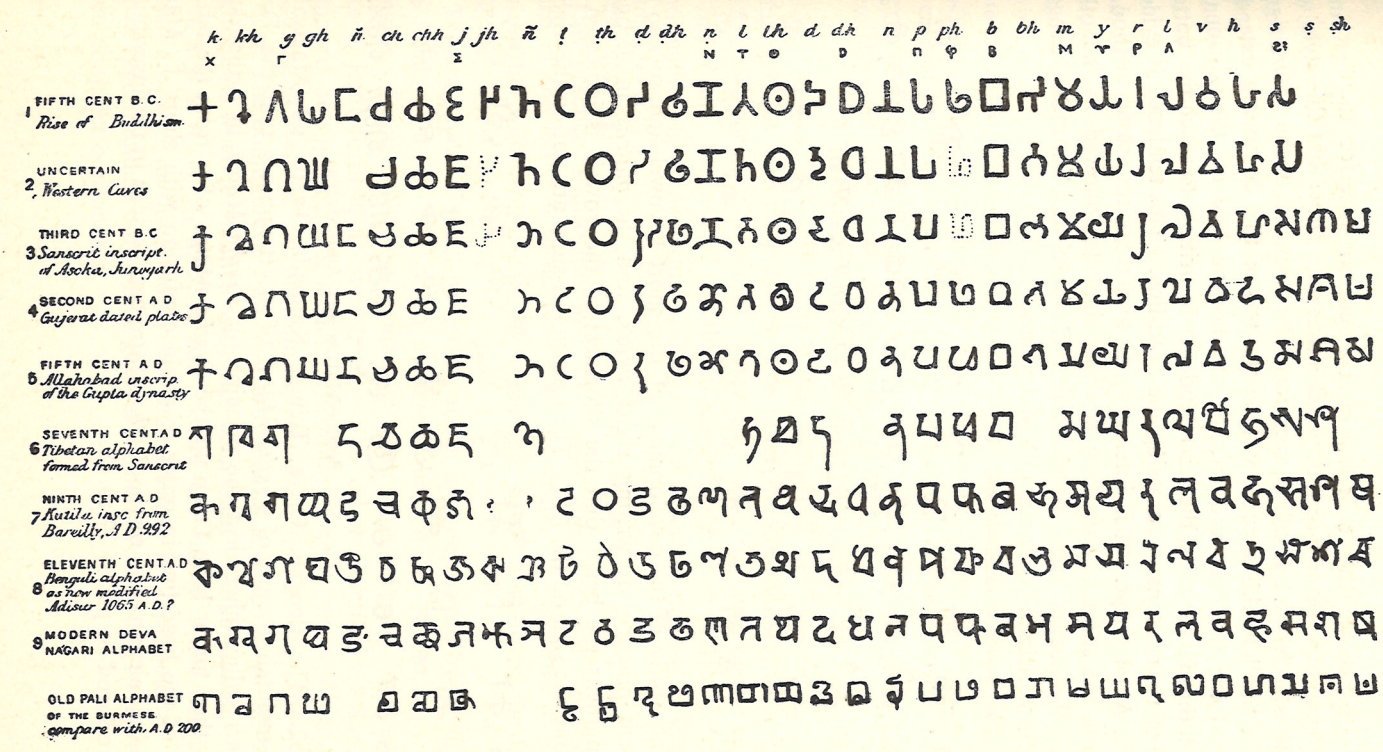
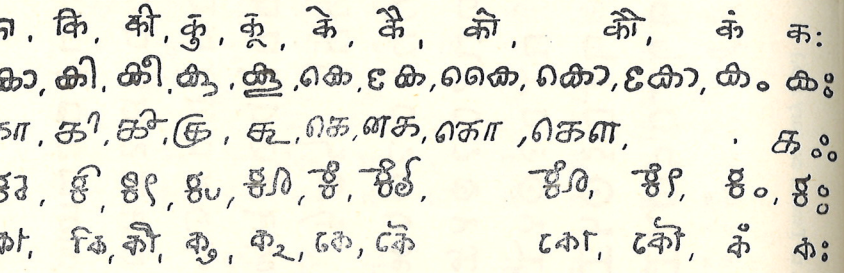


Table 39. **Development of the Devanagari Consonants** (Sixth century B.C. to Twelfth century A.D.)


k kh g gh ṅ c ch chh j jh ñ ṭ ṭh ḍ ḍh ṇ t th d dh n p ph b bh m y r l v h s ś ṣ kṣ
1 FIFTH CENT B.C. Rise of Buddhism
2 UNCERTAIN Western Cures
3 THIRD CENT B.C Sanscrit inscript. at Asoka, Junagarh
4 SECOND CENT A.D Gujerat dated plate
5 FIFTH CENT A.D Allahabad inscrip. of the Gupta dynasty
6 SEVENTH CENT A.D Tibetan alphabet formed from Sanscrit
7 NINTH CENT A.D Kutila insc from Bareilly, A.D. 992
8 ELEVENTH CENT A.D Bengali alphabet as now modified Adisur 1065 A.D.?
9 MODERN DEVA NAGARI ALPHABET
OLD PALI ALPHABET OF THE BURMESE compare with A.D 200

(532 A.D.) shows the ि *Mātrā* in the current style for the first time. The examples from inscriptions after that date show that this style was firmly established. It will be seen from the evolution of the *Mātrā* sign ि that a small hooklike curve put on the top of the consonant extended beyond the headline and reached the bottom line of the consonant. It will thus be seen that there is a tendency in writing, to reach the bottom level of the consonants, crossing the head-line. This tendency is evident in the *Modi* script. It is interesting to find that the same method of placing the short ि and long ी vowel-signs is followed in the other Indian languages such as Kashmiri, Gurumukhi, Assamese, Bengali, Gujarati, Kannada, Tamil and Malayalam.

Table 40. **Series Modulation with क**



The study of the development of the short ि vowel-sign, so also the present practice of writing short *ukārs*, and the *mātrās* in Bengali, strengthens the belief that the shortness of the vowels is indicated by putting the sign on the left. The long vowel-signs are put on the right.

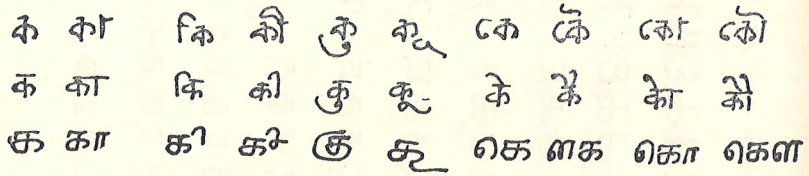


Fig. 54. **Prstha-Matras and Anu-Matras**

132. The Bengali, Oriya, Telugu, Kannada, Tamil nd Malayalam still maintain the use of *Pṛṣṭha-Mātrā* of ए. It appears that the Devanagari calligraphers lost the principle of *Pṛṣṭha-Mātrā* in orthography and they might have taken up the *Pṛṣṭha-Mātrā* of ए from the left to top of the head-line in order to avoid confusion with short ि *Mātrā*. Gradual elemination of the *Pṛṣṭha-Mātrā* can be seen in the inscriptions reproduced in plates 39 to 68.

Variations in the Style of Characters

133. The number of the letters in the Devanagari varies with the Indian language for which it is used. For instance in Hindi the vowels ऌ and ॡ are not made use of. They are also rarely used in other Indian languages. When they are used at all, they take the forms of ऌ and ॡ respectively and are placed at the foot of the consonant. The consonant ळ is not used in Hindi but is essential for Marathi, Gujarati and most of the South Indian languages. It is customary to add ड़ and ढ़ to the Hindi alphabet as these cerebrals are considered distinct from ड and ढ. In order to express special Urdu sounds certain other letters are written with a *nuktā* or a dot under them: as क़ ख़ ग़ ज़ and फ़. It is interesting to note here that certain letters are written differently in Hindi and Marathi. They are अ-अ ; झ-झ; ण-ण; ल-ल ; श-श, क्ष-क्ष. Similar distinction exists in case of three figures, ५ ५ ; ८ ८ ; and ९ ९. This distinction is prevalent in the two styles of printing in Devanagari, known as the Bombay style or *balbodh* and the Calcutta style.

Conjunct Formation in Devanagari

134. In case of conjunctions, i.e., two (full verti-bar) consonants combined, the current practice is to place the consonants pronounced first, in half form, i.e., without the vertical stroke, followed by the second in full form. In case of certain archaic conjuncts of quarter verti-bar consonants, the consonants are placed one below the other as they cannot be split vertically by removing the verti-bar.

भट्ट, बौद्ध, उड्डाण, मट्ठ, पल्ला for भट्ट, बौद्ध, उड्डाण, मट्ठ, and पल्ला.

This practice is also followed in constructing the conjuncts from some of the letters with verti-bar : अन्न is written as अन्न ; and from the consonants with central-bar, by removing small portion of the latter half, i.e., वक्कल and लप्फा.

The conjuncts of small-bar letters and य are constructed by modifying the form of य as च known as three-fourth य i.e. त्य, ज्य, ठ्य. The conjuncts formed with the aspirate ह, as first member the combination, take a joint form ह्म as in गुह्म etc. The other examples of Sanskrit conjuncts of ह are ह्ण ह्न ह्म ह्य ह्ल and ह्व. Conjuncts ण्ह, न्ह, म्ह, ल्ह, and व्ह, occurring in Marathi[5] are the aspirates of nasals ण, न, म, and semi-vowels र, ल. व. The conjuncts of द are also numerous द्द द्र द्ध द्ध द्ध द्ब द्म द्य. Consonants when combined with full consonant न take similar forms क्न, फ्न ब्न भ्न म्न म्न, ह्न, त्न, ज्न, ध्न, प्न etc. There are many more conjuncts which are used in the hand-written manuscripts in Devanagari. The earlier type-founders cut many ligatures for hand-composing to represent these conjunct consonants.

135. The conjunct-sorts available with the Nirnaya-sagar Type-foundry are shown in the list produced on page 301 at item 20. See also the statement of conjunct construction, vertical and linear, which is reproduced below from a list prepared by L. S. Wakankar.

Table 41. **Two styles of writing the Conjuncts**

Vertical	*Linear*
क्र ,क्र ,क्र ,क्र ,क्र ,क्र ,क्र ,क्र ,क्र ,	क्र, क्क, क्च, क्त, क्व, क्ल, क्र्र, क्य,
ग्र ,ग्र ,घ्र ,घ्र ,ङ्र ,ङ्र ,ङ्र ,ङ्र ,ङ्म ,	ग्र, ग्न, घ्न, घ्न, ङ्क, ङ्ख, ङ्ग, ङ्घ, ङ्क्ष, ङ्म,
च्र ,च्र ,च्र ,ज्र ,ज्र ,ज्र ,ज्र ,ञ्र ,ञ्र ,	च्र, च्न, च्च, ज्र, ज्ञ, ज्ज, ज्झ, ञ्ज, ञ्च, ञ्ज,
ट्र ,ट्र ,ट्र ,ठ्र ,ठ्र ,त्र ,त्र ,त्र ,त्र ,	ट्ट, ट्ठ, ट्व, ट्य ट्य, ठ्च, ठ्ठ, ट्र, त्न, त्र, त्त,
त्र ,थ्र ,थ्र ,द्र ,द्र ,द्र ,द्र ,द्र ,द्र ,	त्र, थ्र, थ्न, द्र, द्ग, द्न, द्र, द्व, द्ध, द्ब, द्ध,
द्र ,द्र ,द्र ,ध्र ,ध्र ,ध्र ,न्र ,न्र ,प्र ,	द्भ, द्य, द्म, ध्र, ध्न, ध्म, न्र, न्न, प्र, प्त,
प्र ,प्र ,फ्र ,फ्र ,ब्र ,ब्र ,भ्र ,भ्र ,म्र ,	प्प, प्ल, फ्र, फ्ल, ब्र, ब्ल, भ्र, भ्न, म्र, म्न,
ल्र ,ल्र ,व्र ,व्र ,श्र ,ष्ट्र ,स्त्र ,स्त्र ,स्त्र ,	ल्य, ल्ल, व्र, व्न, श्र, ष्ट, ष्ठ, स्र, स्व, स्न,
स्र ,ह्र ,ह्र ,ह्र ,ह्र ,ह्र ,ह्र ,ह्र ,	स्व, ह्य, ह्म, ह्र, ह्र, ह्ण, ह्न, ह्व, ह्ल,
श्र ,श्र ,श्र ,श्र ,श्र ,श्र ,	श्र, श्र, श्न, श्ल, श्व, श्च,
क्र ,ङ्र ,ह्र ,ङ्र ,च्र ,ल्र ,ल्र ,ट्र ,ड्र ,	त्कर, ङ्गर, ङ्घर, ङ्क्त, च्छ्र, स्त्र, न्त्र, त्र, ट्र, ड्र, ड्डर,
ड्र ,ढ्र ,द्र ,द्र ,ह्र ,ह्र ,द्र ,द्र ,द्र ,	ड्ड्व, ड्ढ्र, ड्ग्र, ड्घ्र, ड्ब्ध, ड्भ्र, ड्व्र, ड्प्र, ड्ग्र, ढ्ढ्य, ढ्ढ्व,

136. *Different combinations of* र (*R*).—The consonant र is an exception and takes five different forms. They are indicated below :

1. When pronounced *after* the verti-bar consonant in the conjunct, its verti-bar removed, र takes the form of a stroke and a *kana*. } "ɾ" as in प्रकार.

2. When pronounced *after* some short-bar consonants, takes the form of a stroke below the consonant. } "ɾ" as in मुद्रण.

3. When pronounced *after* some short-bar consonants coming first in the conjunct, takes a different form. } " " as in राष्ट्र known as *rastra-sign*.

4. When pronounced *with* an accent *before* the other consonant in the conjunct takes the form of " *Reph* ".[6] } " ◌ " as in कार्य, सर्प, धर्म, आचार्यास. (to the *Āchārya*, to the teacher)

5. The other variant of र् when pronounced *without* an accent ` *before* the other consonant. } " ◌ " as in न्हास, वैन्याने, आचाऱ्यास (to the *Āchāri*, the cook).

These various forms of र in the conjuncts have put up the number of types considerably. In the Nirnaya-sagar fount* there are thirteen additional *Mātrā* types for *rafāri* letters alone. In addition there are twenty-three special conjunct-sorts having the consonant र as latter half.

* *See* Table 57, pp. 302-3.

Conjuncts in Old Inscriptions

137. It is interesting to examine the origin and development of र in the conjuncts in the old inscriptions, which are given below :

Table 42. **Development of र in the inscriptions**

Description	*Consonants*	*Matra sign*	*Method of joining*	*Current Devnagari*
1. Girnar Rock Edict Third century B.C.	क, त, व			क्र, त्र, र्व
2. Ramagarh, Ghosandi Second century Inscription century B.C.	प, ग, व			प्र, र्ग, व्र
3. Jain Inscription of Mathura First century B.C.	व, द			व्र, द्र
4. Mathura Inscription Do.	त			त्र
5. Saranath-Mathura Inscription First and Second century A.D.	ध, ग, त			र्ध, ग्र, त्र
6. Nasik Inscription of Shaka Ushavadat and wife Dakshamitra Second century A.D.	बा			ब्रा
7. Girnar Inscription of Rudravarma Do.	ष, ट, द, ज			ष्ट्र, द्र, जि
8. Pallava King Vishnugopa Varman's Grant-deed Fifth century A.D.	ब, द			ब्र, ई
9. Chalukya Kings' inscriptions and Grant-deed Sixth and seventh century A.D.	च, छ			च्छे
10. Grant-deed of Rastrakut King Prabhatavarsha 813 A.D.	स, थ			स्र, र्थ
11. Danapatra of Chalukya King Bhim Tenth century A.D.	म, त, थ			र्म्म, र्त्थ

(i) In the first example (Sr. No. 1 Girnar) it is seen that क्र is formed by substituting the central bar with the Brahmi र.

(ii) In case of त्र (Sr. No. 3 Mathura) also, र is joined with half form of त. In both the above cases र is full.

(iii) In र्व (Sr. No. 1 Girnar) र is the first consonant in half form and is placed on the top of the consonant. The same is the case of र्ग (Sr. No. 2 Ramagarh).

(iv) The construction of द्र (Sr. No. 2 Ramagarh) is made by joining र to the half form of द.

(v) The Girnar Inscription of second century A.D. uses the conjunct ष्ट्र in which both the consonants ष and ट are used in half forms and full र is attached to them. In the current style of Devanagari, the vertical र is placed in horizontal position below ट.

(vi) The same method of using half form of the first consonant in conjunct (ब्र) was followed in the script of Southern group of Brahmi (Sr. No. 8 Pallava).

(vii) In the construction of च्छ्रे (Sr. No. 9 Chalukya) half form of छ is placed below half form of च and a full र is joined at the bottom.

138. The method of placing half form of र on the top, when it is the first member of the conjunct and joining full form of र to the half forms of the consonants coming first, is thus the legacy of Brahmi. Even in the current forms of conjuncts भ्र in नम्र, प्र in प्रकार, भ्र in शुभ्र the first consonants म, प and भ are in half forms म्, प् and भ्, and the full form of र in alternate design ɾ, is joined to them. The *rafār* sign in the conjuncts वर्ण, तर्क, धर्म is actually the short form of र and originally it used to look as व॒र्ण, त॒र्क, ध॒र्म, but it transformed into a curve in the style of writing.

The Devanagari alphabet and lists of conjuncts are reproduced in Annexure E pp. 193-204.

Phonological Basis of Devanagari Letters

(*Table 43*)

Table 43 **Phonological Basis of Devanagari Letters**
(The tabular chart)

SEMI-VOWELS अर्धस्वर (य र ल व) अंतस्थ	SIBILANT (श ष स ह) उष्माण:	VOWELS स्वर: FORMS L = Letters स्वर चित्र; Mn = Mark for minority (Archaic) N.P. Mj = Mark for majority (Later)		M = Marks स्वर चिन्ह Short ह्रस्व	Long दीर्घ
I Unvoiced *Jihvamuleeya* : ah	VOICED ह h ह	PURE VOWELS मूल स्वर:	L.	अ a	आ aa
			Mn.	ा	ा
			Mj.	ा	ा
II Fricative य y ɤ or ष	संघर्षी श or श Sh ɤ or ɤ		L.	इ i	ई ee
			Mn.	ि	ी
			Mj.	ि ा	मी
III Flapped र or ऩ ॅ ॉ ॎ ॏ ॐ	ष · s ष		L.	ऋ r	ॠ ii
			Mn.	ृ	ॄ
			Mj.	ृ ॅ	ॄ
Dental IV ल or ल l ल	स ś स		L.	ऌ l	ॡ ll
			Mn.	ॢ	ॣ
			Mj.	ॢ	ॣ
V Voiced (a) *Upadhmaneeya* उपध्मानीय: (b) व v or w			L.	उ u	ऊ oo
			Mn.	ु	ू
			Mj.	ु	ू
		MIXED VOWELS मिश्र स्वर	L.		
			Mn.		
			Mj.		
VI Palato-Guttural कंठतालु			L.	ए e	ऐ ai
			Mn.	े	ै
			Mj.	े	ै ै
VII Dento-labial कंठोष्ठ:				ओ o	औ au
				े ा	ै ा
ळ ! a	क्ष ksh ɤ or x				
त्र	श्र shr		L.		अं am
			M.		ं
ऽ	ऽ		L.		अ: ah
			M.		: ः

PANINI'S PHONETIC CLASSIFICATION पाणिनी र रचित ध्वन्यनुसारी वर्णमाला	FORMS Full or Half	PLOSIVE स्पर्श वर्ण CONSONANTS व्यंजन Unvoiced अघोष (मृदु) Un-aspirated अल्प प्राण	Aspi-rated महा प्राण	Voiced घोष (कठोर) Un-aspirated अल्प प्राण	Aspi-rated महा प्राण	Nasal नासिक्य अनुनासिक	
GUTTURALS (Velar)	F	क ka	ख kha	ग ga	घ gha	ङ ṅa	
अ कु ह विसर्जनीयाना कंठ :	H	क् k	ख् kh	ग् g	घ् gh	ङ् ṅ	I
PALATALS	F	च ca	छ cha	ज ja	झ jha	ञ ña	
इ चु य शा नां तालु	H	च् c	छ् ch	ज् j	झ् jh	ञ् ñ	II
CEREBRALS (Retro-flex) Cacumlnal	F	ट ṭa	ठ tha	ड ḍa	ढ ḍha	ण ṇa	
ऋ टु र षा णां मूर्धा :	H	ट् ṭ	ठ् ṭh	ड़् ḍ	ढ् ḍh	ण् ṇ	III
DENTALS	F	त ta	थ tha	द da	ध dha	न na	
ऌ तु ल सा नां दन्ता :	H	त् t	थ् th	द् d	ध् dh	न् n	
LABIALS	F	प pa	फ pha	ब ba	भ bha	म ma	IV
उ पू पध्मानीयानां औष्ठौ	H	प् p	फ् ph	ब् b	भ् bh	म् m	
DENTO-LABIAL दंतोष्ठ							V
PALATO-GUTTURALS कंठतालु							
LABIO-GUTTURALS कंठोष्ठ :							VI
LATERAL VOICED पार्श्विक मूर्धन्य							VII
Conjuncts संयुक्ताक्षर					क्ष ɤ	ज्ञ jñy ɤ	

Annexure E

LIST OF DEVANAGARI LETTERS INCLUDING CONJUNCTS

The lists are reproduced from the following :—

1. '*Lingua Sanscrita*' by M. Rampolla Del Tridaro Roma, MCMXXXVI, *Typographica Polyglotta.* (pp. 193-199)

2. *Sanskrit Grammar* by Sir Charles Wilkins, London, 1808. (pp. 200-203)

3. Table of Conjunct letters used in Sanskrit, compiled from *Introduction to the Devanagari Script* by H. M. Lambert, London, 1953. (pp. 204a and 204b)

PHONETICA

Communior scriptura pro sanscrita lingua ea est quae *devanāgarī* appellatur (देवनागरी). Modo quodam systematico litterae disponuntur quem sequens tabula exhibet.

TABULA ALPHABETICA

Vocales

Simplices	breves	अ	*a*	इ	*i*	उ	*u*	ऋ	*ṛ*	ऌ	*ḷ*
	longae	आ	*ā*	ई	*ī*	ऊ	*ū*	ॠ	*ṝ*	(ॡ	*ḹ*)
Diphthongi	clausae	ए	*e*	ओ	*o*						
	apertae	ऐ	*ai*	औ	*au*						

Consonantes

	Surdae				Sonorae				Nasales	
	non aspirmae		aspiratae		non aspiratae		aspiratae			
Gutturales	क	*ka*	ख	*k-ha*	ग	*ga*	घ	*g-ha*	ङ	*ṅ*
Palatales	च	*ca*	छ	*c-ha*	ज	*ja*	झ	*j-ha*	ञ	*ñ*
Linguales	ट	*ṭa*	ठ	*ṭ-ha*	ड	*ḍa*	ढ	*ḍ-ha*	ण	*ṇ*
Dentales	त	*ta*	थ	*t-ha*	द	*da*	ध	*d-ha*	न	*n*
Labiales	प	*pa*	फ	*p-ha*	ब	*ba*	भ	*b-ha*	म	*m*

Semivocales	य	*ya*	र	*ra*	ल	*la*	व	*va*	} sonorae
Spirantes	ह	*ha*							} sonorae
	श	*śa*	ष	*ṣa*	स	*sa*			} surdae

Visarga ः *ḥ*, anusvāra ं *ṃ*, anunāsika ँ *m̐* vel *n̐*.

— 2 —

DE SCRIPTIONE

I. – Vocalium

Vocales scribuntur ut in tabula praecedenti solummodo:

1) in initio propositionis vel periodi;

2) si per se syllabam constituant.

In medio autem et in fine vocabulorum:

a अ numquam scribitur, censetur enim unicuique litterae (consonanti vel semivocali) inhaerere: ad excludendam अ *a*, ponitur sub consonanti (vel semivocali) signum ् quod dicitur *virāma* (= « cessatio »), ex अभवत् *abhavat* = « erat », अभवत *abhavata* « eratis ».

Signa pro ceteris vocalibus haec sunt:

ा pro *ā* मा *mā* « me » (acc.), आवाम् *āvām* « nos duo ».

ि » *i* consonanti praemissum. पति *pati* « dominus », इति *iti* « ita ».

ी » *ī* | जीव् *jīv* « vivere », जननी *janunī* « genitrix ».

ु » *u* तु *tu* « sed ». सुख *sukha* « felicitas ». अधुना *adhunā* « nunc ».

ू » *ū* | भू *bhū* « fieri », वधू *vadhū* « mulier ».

ृ » *ṛ* | वृष् *vṛṣ* « pluere », नृप *nṛpa* « rex ».

ॄ » *ṝ* पितॄन् *pitṛn* « patres » (acc.), मातॄणाम् *mātṛṇām* « matrum ».

ऌ » *ḷ* | क्लृप् *klp* « efficere ».

Pro diphtongis:

े pro *e* मेघ *megha* « nubes », देव *deva* « deus ».

ै » *ai* रै *rai* « divitiae », देवैस् *devais* « deis ».

ो » *o* गो *go* « bos », देवयोस् *devayos* = « duorum deorum ».

ौ » *au* नौस् *nāus* « navis », मौन *mauna* « silentium ».

In litteris द, र, श, क्, *u*, *ū* sic uniuntur: दु *du*, रु *ru*, शु *śu*, कु *ku*, हू *hū*, दू *dū*, रू *rū*, शू *śū*, कू *kū*.

Praeterea *bṛ* ब्रृ, *gṛ* ग्रृ, *dṛ* द्रृ.

— 3 —

II. – Consonantium

Duae vel plures (etiam quinque) consonantes vocale carentes inter se coniunguntur triplici modo; etenim:

a) aliae aliis iuxtaponuntur स्त् *st*, न्द् *nd*, म्प् *mp*.

b) aliae sub aliis ponuntur म्ल् *ml*, च्च् *ñc*, श्व् *śv*.

c) modo arbitrario tertium quoddam signum formant.

Ad distinguendos facilius non paucos nexus haec notanda sunt: generatim litterae sanscritae tria elementa habent: lineolam horizontalem, lineolam verticalem, partem propriam distinctivam. Haec prima scribitur ex. gr. ह: ह, श, श; ह, त, त, si altera ex lineolis desit: ा, क, क; ा, भ; ध, ध.

In nexibus itaque classis *a*) et *b*) elementum distinctivum non amittitur sed tantum alterutra ex lineolis; in nexibus tertiae classis pars distinctiva non amplius recognosci potest.

Quandoque ad lectorum usum nonnulli nexus faciliore ratione scribuntur: ex. gr. पंक्ता vel पंक्त्या loco पङ्क्ता (vide p. 6 lineam n° 6).

Nexus consonantium

Coniunctio duarum consonantium.

क्क *kka*, क्ख *kkha*, क्ण *kṇa*, क्त *kta*, क्थ *ktha*, क्न *kna*, क्म *kma*, क्य *kya*, क्र vel ऋ *kra*, क्ल *kla*, क्व *kva*, क्ष vel क्ष *kṣa*, ख्य *khya*, ख्व *khva*, ग्घ *ggha*, ग्ध *gdha*, ग्न *gna*, ग्भ *gbha*, ग्म *gma*, ग्य *gya*, ग्र *gra*, ग्ल *gla*, ग्व *gva*, घ्न *ghna*, घ्य *ghya*, घ्र *ghra*, घ्व *ghva*, ङ्क *ṅka*, ङ्ख *ṅkha*, ङ्ग *ṅga*, ङ्घ *ṅgha*, ङ्म *ṅbha*, ञ्ञ *ṅma*.

च्च *cca*, च्छ *ccha*, च्ञ *cña*, च्म *cma*, च्य *cya*, छ्य *chya*, छ्र *chra*, ज्ज *jja*, ज्झ *jjha*, ज्ञ *jña*, ज्म *jma*, ज्य *jya*, ज्र *jra*, ज्व *jva*, ञ्च *ñca*, ञ्छ *ñcha*, ञ्ज *ñja*.

ट्ट *ṭṭa*, ट्ठ *ṭṭha*, ठ्य *ṭhya*, ड्ग *ḍga*, ड्ड *ḍḍa*, ड्ढ *ḍḍha*, ड्ब *ḍba*, ड्भ *ḍbha*, ड्य *ḍya*, ड्र *ḍra*, ढ्य *ḍhya*, ढ्र *ḍhra*, ण्ट *ṇṭa*, ण्ठ *ṇṭha*, ण्ड *ṇḍa*, ण्ढ *ṇḍha*, ण्ण *ṇṇa*, ण्म *ṇma*, ण्य *ṇya*, त्र *ṇva*.

— 4 —

क tka, त tta, त्थ ttha ब tna, त्म tma, त्य tya, त्र tra, त्व tva, त्स tsa. थ्र thna, थ्य thya, थ्व thva. द्ग dga, द्घ dgha, द्द dda, द्ध ddha, द्न dna, द्ब dba, द्भ dbha, द्म dma, द्य dya, द्र dra, द्व dva. ध्न dhna, ध्म dhma, ध्य dhya, ध्र dhra, ध्व dhva. न्त nta, न्थ ntha, न्द nda, न्ध ndha, न्न nna, न्म nma, न्य nya, न्र nra, न्व nva, न्स nsa.

प pta, प्य ptha, प्र pna, प्प ppa, प्फ ppha, प्म pma, प्य pya, प्र pra, प्ल pla, प्व pva, प्स psa. ब्ज bja, ब्द bda, ब्ध bdha, ब्ब bba, ब्भ bbha, ब्य bya, ब्र bra. भ्य bhya, भ्र bhra, भ्व bhva. म्ण mna, म्न mna, म्प mpa. म्फ mpha, म्ब mba, म्भ mbha, म्म mma, म्य mya, म्र mra, म्ल mla.

य्य yya, य्र yra, य्व yva.

र्क rka, र्ख rkha, र्ग rga, र्घ rgha, र्च rca, र्छ rcha, र्ज rja, र्ण rna, र्त rta, र्थ rtha. र्द rda, र्ध rdha, र्प rpa, र्ब rba, र्भ rbha, र्म rma, र्य rya, र्व rva, र्श rca, र्ष rṣa, र्स rsa.

ल्क lka, ल्ग lga, ल्द lda, ल्प lpa, ल्ब lba, ल्भ lbha, ल्म lma, ल्य lya, ल्ल lla, ल्व lva, ल्ष lṣa, ल्ह lha.

व्न vna, व्य vya, व्र vra, व्ल vla, व्व vva.

श्च śca, श्न śna, श्य śya, श्र śra, श्ल śla, श्व śva. ष्क ṣka, ष्ट ṣṭa, ष्ठ ṣṭha, ष्ण ṣṇa, ष्प ṣpa, ष्म ṣma, ष्य ṣya, ष्व ṣva. स्क ska, स्ख skha, स्त sta, स्थ stha, स्न sna, स्प spa, स्फ spha, स्म sma, स्य sya, स्र sra, स्त्र sva, स्स ssa. ह्ण hṇa, ह्न hna, ह्म hma, ह्य hya, ह्र hra, ह्ल hla, ह्व hva.

Coniunctio trium consonantium.

क्ष्ण vel क्कण kkṇa. क्ष्ण kṣṇa, क्थ्न kthna, क्ष्म kṣma, क्क्य kkya, क्ख्य kkhya, क्त्र ktra. क्त्य ktya, क्ष्य kṣya, क्त्र ktra, क्ल्य klva, क्ष्व kṣva. ग्घ gghya, ग्द्य gdya, ग्न्य gnya, ग्भ्य gbhya,

— 5 —

ग्र्य grya, ग्द्व gdhva. ङ्क ṅkta, ङ्क्य ṅkya, ङ्ख्य ṅkhya, ङ्ग्य ṅgya, ङ्घ्य ṅghya, ङ्क्ष ṅkṣa.

च्च ccya, च्छ्य cchya, च्क्र ccbra, च्छ्व cchva. ज्ञ jña, ज्ज्व jjva. ञ्च्य ñcya, ञ्छ्य ñchya, ञ्च्व ñcva, ञ्ज्व ñjva.

ट्ट्य ṭṭya. ड्ढ्य ḍḍya, ड्ढ्य ḍbhya. ण्ट्य ṇṭya, ण्ठ्य ṇṭhya, ण्ड्य ṇḍya, ण्ड्र ṇḍra.

त्क्र tkra, त्न्य tnya, त्प्र tpra, त्स्न tsna, त्थ्य ttya, त्थ्य tthya, त्म्य tmya, त्र्य trya, त्स्य tsya, त्त्र ttra. त्व ttva, त्र्व trva, त्स्व tsva. द्द्य ddya, द्ध्य ddhya, द्ध्य dbhya. द्र्य drya, द्व्य dvya. ध्न्य dhnya, ध्व्य dhvya. न्द्ध nddha, न्त्म ntma, न्द्म ndma, न्ध्म ndhma, न्त्य ntya, न्थ्य nthya, न्द्य ndya, न्न्य nnya, न्त्र ntra, न्द्र ndra, न्ध्र ndhra, न्त्व ntva, न्द्व ndva, न्ध्व ndhva, न्य्व nyva, न्त्स ntsa.

प्स psna, प्य ptya, प्स्य psya. प्र ptra, प्ण्व pṇva, प्त्व ptva, प्ल्व plva, प्स्व psva. ब्ज्य bjya, ब्ध्य bdhya, ब्ब्य bbbya, ब्भ्र bbbra, ब्ध्व bdhva. भ्र bhrya. म्प्य mpya, म्फ्य mphya, म्ब्य mbya, म्ब्ल mbla, म्भ्य mbhya, म्प्र mpra, म्भ्र mbbra.

र्क्ष rkṣa, र्ष्ट्र rṣṭa, र्ण्ण rṇṇa, र्त्त rtta, र्द्ध rddha, र्ग्य rgya, र्घ्य rgbya, र्च्य rcya, र्ण्य rṇya, र्त्य rtya, र्प्य rpya, र्ब्ब rbba, र्य्य ryya, र्ष्ण rṣṇa, र्ल्म rbma.

ल्क्य lkya, ल्ग्य lgya, ल्प्र lpta, ल्प्य lpya.

श्च्य ccya, श्र्य crya. ष्ट्य ṣṭya, ष्ण्य ṣṇya, ष्ट्र ṣṭru, ष्ट्व ṣṭva. स्त्य stya, स्त्र stra, स्त्व stva, स्थ्न sthna स्थ्य sthya, स्न्व snva, स्म्य smya. स्र्य srya, स्त्र srva. ह्ण hnya, ह्म्य hmya, ह्व्य hvya,

Coniunctio quatuor consonantium.

क्त्र्य ktrya, क्ष्म्य kṣmya. ङ्क्ष्ण ṅkṣṇa, ङ्क्ष्म ṅkṣma, ङ्क्त्य ṅktya, ङ्क्ष्य ṅkṣya, ङ्क्त्र ṅktra, ङ्क्ष्व ṅkṣva. ण्ड्र्य ṇḍrya. त्र्य ttrya, त्स्न्य tsnya,

— 6 —

त्स्म्य *tsmya*. द्ध्य *ddhya*. न्त्य *ntya*, न्त्स्य *ntsya*, न्त्स्त्र *ntstra*, न्ध्य *ndhya*. प्त्य *ptya*. क्ष्य *rkṣya*. र्त्य *rtya*, र्त्स्य *rtsya*, र्त्स्य *rtsya*, र्द्ध्य *rddhya*. ल्प्य *lpya*. ल्प्स्म *lpsma*, ल्प्स्य *lpsya*. ष्ट्र्य *ṣṭrya*.

Coniunctio quinque consonantium.

ङ्क्ष्ण्व्य *ṅkṣṇvya*, ङ्क्त्र्य *ṅktrya*. ङ्क्ष्म्य *ṅkṣmya*, ङ्क्ष्व्य *ṅkṣvya*, र्त्स्न्य *rtsnya*.

De pronunciatione

Unicuique litterae sonus fixus est atque invariabilis. Vocales *r*, *l* pronunciantur tamquam *ri*, *li*, quarum tamen *i* vix auditur (iuxta alios: *r*, *l*, absque ulla vocale).

Palatales *ca*, *ja* habent sonum *cb*, *j* anglorum.

Linguales *ṭa*, *ḍa* pronunciantur fere sicut *ta*, *da* dentales sed inducta lingua versus palatum.

In aspiratis omnibus sonus aspirationis audiendus est post sonum consonantis fere ut ex. gr. *t* + *ha*, *d* + *ha* etc.

ṣa valet *sh* anglorum, ac idem fere *śa*, sed prior est sonus palatalis, alter linguālis.

Signa litterae *n* valent tamquam *n* (nasalem) ante respectivas consonantes (gutturales, palatales, linguales, dentales), quae ipsius pronunciationem immutant.

Alii soni sunt:

Visarga ः aequivalet spiranti attenuatae ortae ex *r*, vel *s* finalibus; pronunciatur sicut *s* vel *h* lenis: देवः *devas* vel *devaḥ*(ă).

Anusvāra ं est sonus nasalis *ṃ* ante spirantes sed generatim invenitur, in libris plurimis, ad significandum *m* vel *n*, ante quamcumque consonantem; संस्कृत *saṃskṛta* elaboratus, संधि *saṃdhi*.

Anunāsika ँ est affectio nasalis vocalium ante consonantem *l*.

Alia signa sunt:

Interpunctionis: । pausa, ॥ finis sententiae.

Avagraha ऽ significat elisionem vocalis *ă* initialis vocabuli cui praeponitur: नृपोऽत्र *nṛpo'tra* = *nṛpo atra*; ऽऽ pro elisa *ā*.

Vocalis longa ॠ usui non inservit.

— 7 —

Signum ऊ (*ḍa*) et ॿ (*ḍha*) in Veda inveniuntur, tamquam *la* et *lha* linguales.

Pro numeris haec habentur signa:

१ २ ३ ४ ५ ६ ७ ८ vel ~ ९ vel ९ ०

1 2 3 4 5 6 7 8 9 0

De lectione et accentu.

Quomodo Indi legerint ex accentibus qui in eorum antiquis libris signati sunt scire possumus; tamen in dubio de certa et constanti regula, mos invaluit apud nos legendi accentu latino ex quantitate penultimae syllabae deducto.

Leges phoneticae

Vocabulo sanscrito संधि *saṃdhi*, scilicet synthesis, vocantur. Samdhi duplex est quia in scribendo notantur non solum mutationes sonorum in declinatione et coniugatione factae sed etiam eae quae ex unione vocabulorum periodi in pronunciatione exoriuntur. Samdhi prioris generis vocatur internus, morphologicus, alterius generis externus.

Ad leges samdhi clare percipiendas praemittendum est:

I^um^ – *De vocalium gradibus.*

Gradus (seu formae) vocalium tres numerantur:
debilis, media, fortis (forma media *guṇa*, fortis *vṛddhi* dicitur);
debiles sunt omnes vocales simplices (breves vel longae);
mediae eaedem vocales quibus *a* praeponi censetur;
fortes quando vocalibus in forma media altera *a* praeponitur.

Clarum est semper agi de vocalibus quae in *eoaem* vocabulo ita mutantur. En tabula:

Forma debilis	*a*, *ā*	*i*, *ī*	*u*, *ū*	*ṛ*, *ṝ*	*ḷ*	[*a*(*ṇ*)]
» guṇa	*a*, *ā*	*e* (1)	*o*	*ar*	*al*	[*an*]
» vṛddhi	*ā*	*ai* (2)	*au*	*ār*	—	[*ān*]

(1) *e*, *o*, considerantur tamquam summa *a* + *i*; *a* + *u*.
(2) Vocalis *a* in diphthongis habetur *semper* longa (*āi*, *āu*).

THE DEVANAGARI ALPHABET.

Vowels — Consonants.

PI. II.

Initials. *Finals*

अ ă आ ā ा ā क k ख kh ग g घ gh ङ ng

इ ĭ ई ī ि ī च ch छ chh ज j झ jh ञ ng

उ ŭ ऊ ū ु ū ू ū ट ṭ ठ ṭh ड ḍ ढ ḍh ण ṇ

ऋ ṛ ॠ ṝ ृ ṛ ॄ ṝ त t थ th द d ध dh न n

ऌ ḷ ॡ ḹ ॢ ḷ ॣ ḹ प p फ ph ब b भ bh म m

ए ē ऐ ai े ē ै ai य y र r ल l व v or w

ओ ō औ au ो ō ौ au श ś ष ṣ स s ह h ळ u

Initials and Final Vowels with a Consonant.

अक आका इकि ईकी उकु ऊकू ऋक

ॠकॢ ऌकॣ एके ऐके ओको औको

Other Forms.

ऄ आ ऊ ऋ ॠ ऌ ॡ ए ऐ ओ औ ऒ ओ ऊ ऽ

ă ā ū ṛi ṝ ḷ ḹ ai ō au ā ' ṃ

ण ञ म ह ल श ष

ṇ ñ m̐ h l ś ṣ

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COMPOUND CONSONANTS.

Double Letters.

PI. III.

क्क क्ख क्र क्व क्ष्क क्त क्त्र क्थ क्न क्प

kk kkh kch kch'h kṭ kth kn kp

क्फ क्म क्य क्र क्ल क्व क्श क्ष क्त ख्न :

kph km ky kr kl kw kṣ kṣh khn

ख्म ख्य ख्र ख्व ख्श ख्स ग्ग ग्घ ग्ज :

khm khy khr khw khṣ khs gg ggh gj

ग्झ ग्ड ग्ध ग्न ग्ब ग्भ ग्म ग्य ग्र ग्ल ग्व ग्ह

gjh gd gdh gn gb gbh gm gy gr gl gw gh

घ्न घ्म घ्य घ्र घ्ल घ्व ङ्क ङ्ग ङ्घ ङ्ख ङ्म

ghn ghm ghy ghr ghl ghw ngk ngg nggh ngng ngkh ngs

च्च च्छ च्म च्य च्र च्व ञ्च ञ्छ ञ्झ ञ्ह

chch chchh chm chy chr chw ch'hm ch'hy ch'hr

छ्ल छ्व ज्ज ज्झ ज्ञ ज्ञ ज्ञ ञ्ज ञ्झ ज्य ज्र ज्ल :

chhl chhw jj jjh jn jn jm jy jr jl

ञ्ज ञ्च ञ्छ ञ्झ ञ्ज ट्ट ट्ठ ट्म ट्य ट्र ट्म ट्य ट्र :

nj nch nch'h njh nn ṭṭ ṭṭh ṭm ṭy ṭr ṭhm ṭhy ṭhr

ड्ग ड्घ ड्ड ड्ढ ड्ढ ड्म ड्य ड्र ड्ल ड्व ड्म ड्य ड्र ण्ट ण्ठ ण्ड

ḍg ḍgh ḍḍ ḍn ḍḥh ḍm ḍy ḍr ḍl ḍw ḍhm ḍhy ḍhr ṇṭ ṇṭh ṇḍ

ण्ढ ण्ण ण्ह क्क त्त त्त त्थ त्न त्प त्फ त्म :

ṇḍh ṇṇ ṇh tk tkh tt tth tn tp tph tm

त्य त्र त्र त्व त्व त्स थ्र थ्म थ्य थ्व द्ग द्घ

ty tr tr tw tw ts thn thm thy thw dg dgh

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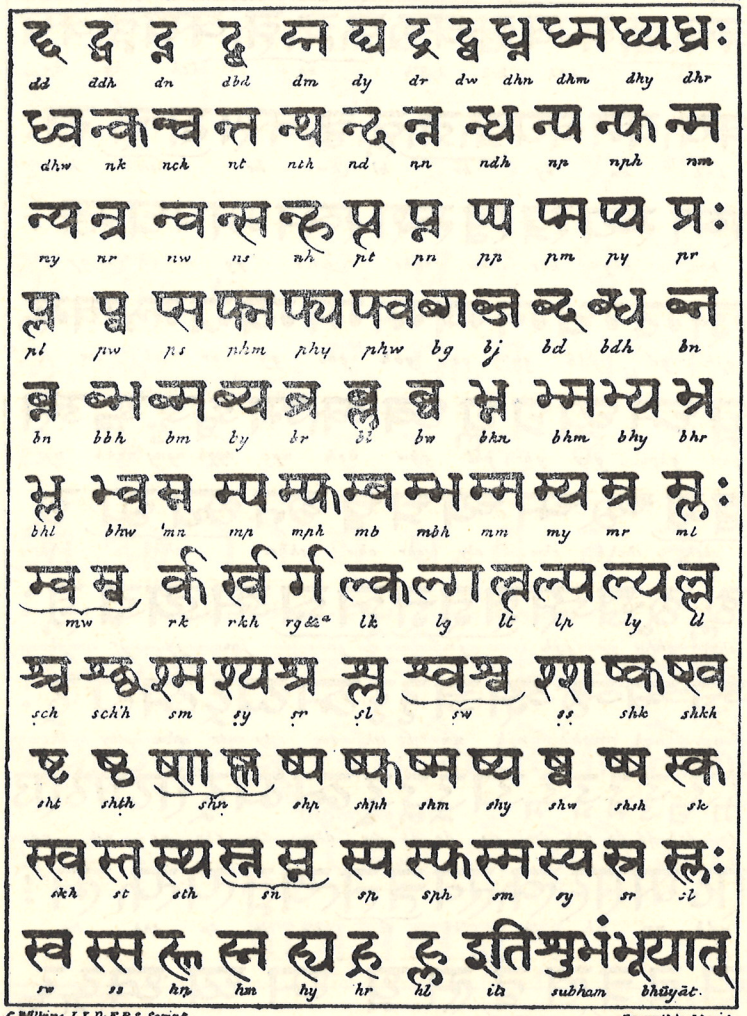
COMPOUND CONSONANTS.

Double Letters Continued.

Pl. IV.


द्द द्ध द्न द्ब द्म द्य द्र द्व ध्न ध्म ध्य ध्र
dd ddh dn dbd dm dy dr dw dhn dhm dhy dhr
ध्व न्क न्च न्त न्थ न्द न्न न्ध न्प न्फ न्म
dhw nk nch nt nth nd nn ndh np nph nm
न्य न्र न्व न्स न्ह प्र प्र प्प प्म प्य प्रः
ny nr nw ns nh pt pn pp pm py pr
प्ल प्व फ्न फ्य फ्व ब्ज ब्द ब्ध ब्न
pl pw ps phm phy phw bg bj bd bdh bn
ब्र ब्भ ब्म ब्य ब्र ब्ल ब्व भ्न भ्भ भ्य भ्र
bn bbh bm by br bl bw bhn bhm bhy bhr
भ्ल भ्व म्न म्प म्फ म्ब म्भ म्म म्य म्र म्लः
bhl bhw mn mp mph mb mbh mm my mr ml
म्व म्ह र्क र्ख र्ग ल्क ल्ग ल्त ल्प ल्य ल्ल
mw rk rkh rg&c lk lg lt lp ly ll
श्च श्छ श्म श्य श्र श्ल श्व श्व ष्ट ष्क ष्व
sch sch'h sm sy sr sl sw ss shk shkh
ष्ट ष्ठ ष्ण ष्ण ष्प ष्फ ष्म ष्य ष्ब ष्व स्क
sht shth shn shn shp shph shm shy shw shsh sk
स्त स्थ स्न स्न स्प स्फ स्म स्य स्र स्लः
sk st sth sn sn sp sph sm sy sr sl
स्व स्स ह्न ह्न ह्य ह्र ह्ल इति शुभं भूयात्
sw ss hn hm hy hr hl iti subham bhūyāt.

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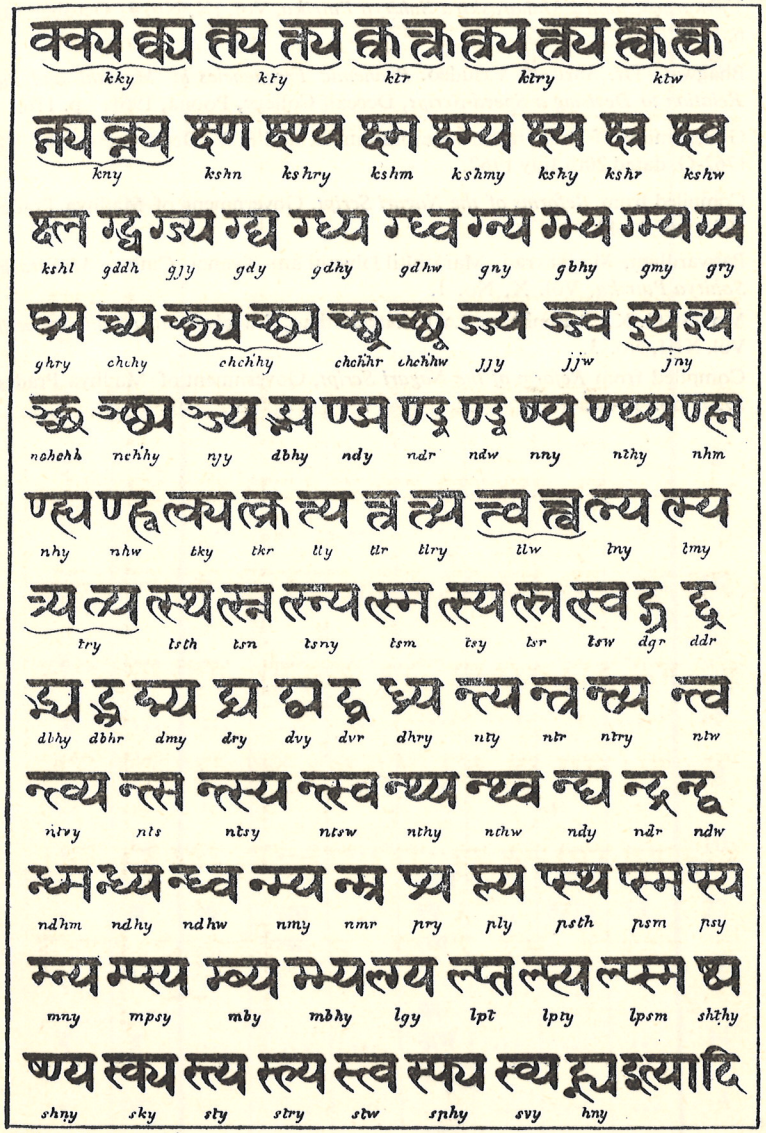
COMPOUND CONSONANTS.

Double Letters Continued

Pl. V.


क्क क्य क्त क्त क्त क्त क्र क्त क्त क्ल क्व
kky kty ktr ktry ktw
क्ष क्ष्ण क्ष्ण क्ष्म क्ष्म क्ष्य क्ष क्ष्व
kny kshn kshry kshm kshmy kshy kshr kshw
क्ल ग्द ग्ज्य ग्द ग्ध ग्ध ग्न ग्भ ग्म्य ग्य
kshl gddh gjy gdy gdhy gdhw gny gbhy gmy gry
घ्य च्च च्च च्छ च्छ ज्य ज्ञ ज्ञ्य
ghry chchy chchhy chchhr chchhw jjy jjw jny
ञ्छ ञ्छ ञ्य ञ्ज ण्ड ण्ड ण्य ण्य्य ण्ह
nchchh nch'hy nyy dbhy ndy ndr ndw nny nthy nhm
ण्ह ण्ह ल्क ल्क त्य त्र त्र त्व त्व त्न्य त्म्य
nhy nhw tky tkr tly tlr tlry tlw tny tmy
त्य त्य त्स्थ त्स्न त्स्न्य त्स्म त्स्य त्स्त्व ड्र द्द
try tsth tsn tsny tsm tsy tsr tsw dgr ddr
द्ध द्ब द्भ द्य द्र द्व ध्य न्त्र न्त्र न्त्व
dhy dbhr dmy dry dvy dvr dhry nty ntr ntry ntw
न्त्व न्त्स न्त्स्य न्त्स्व न्थ्य न्थ्व न्ध्य न्द्र न्द्व
ntvy nts ntsy ntsw nthy nthw ndy ndr ndw
म्भ म्भ्य न्ध्व न्य न्म प्र प्य प्स्थ प्स्म प्स्य
ndhm ndhy ndhw nmy nmr pry ply psth psm psy
म्य म्प्स्य भ्य भ्य ल्य ल्प्त ल्प्त्य ल्प्स श्च
mny mpsy mby mbhy lgy lpt lpty lpsm shthy
ष्ण स्क स्त्य स्त्य स्त्व स्प्य स्व ह्म इत्यादि
shny sky sty stry stw spny svy hny

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Engravd by J. Swaine.

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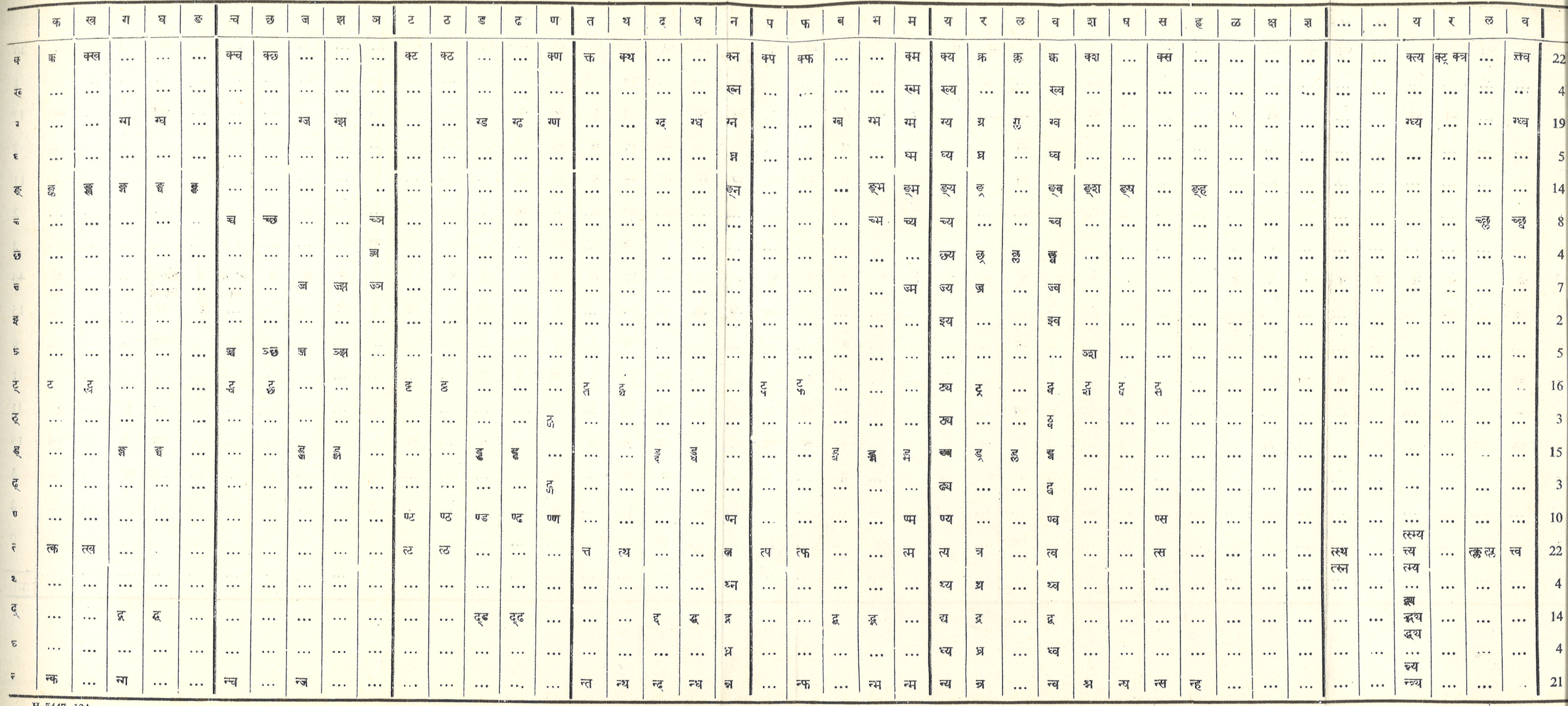


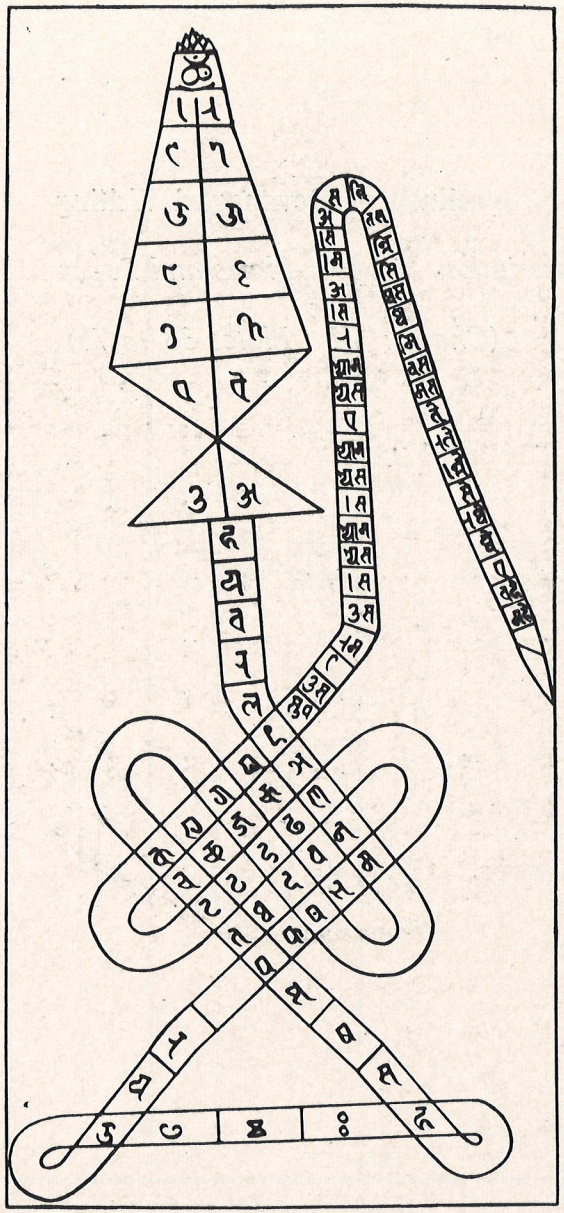
TABLE 44. **Table of Conjunct Letters used in Sanskrit**—contd.

	क	ख	ग	घ	ङ	च	छ	ज	झ	ञ	ट	ठ	ड	ढ	ण	त	थ	द	ध	न	प	फ	ब	भ	म	य	र	ल	व	श	ष	स	ह	ळ	क्ष	ज्ञ	...	...	य	र	ल	व	
ट	क्क	ख्ख	...	...	...	च्च	च्छ	...	...	...	ट्ट	ट्ठ	...	...	...	त्त	त्थ	...	...	न्न	प्प	प्फ	...	...	प्म	य्य	र्र	ल्ल	व्व	श्श	...	स्स	...	...	...	...	...	...	स्य	...	...	...	20
फ	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	फ्य	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
ब	...	...	ब्ग	ब्घ	...	...	...	ब्ज	ब्झ	...	...	...	ब्ड	ब्ढ	...	...	...	ब्द	ब्ध	ब्न	...	...	ब्ब	ब्भ	...	ब्य	ब्र	ब्ल	ब्व	...	...	...	...	...	...	...	...	...	ब्य	...	...	ब्व	17
भ	...	...	...	...	...	...	...	...	...	...	...	...	...	...	भ्ण	...	...	...	...	भ्न	...	...	...	...	भ्म	भ्य	भ्र	भ्ल	भ्व	...	...	...	...	...	...	...	...	...	...	...	...	...	7
म	...	...	...	...	...	...	...	...	...	...	...	...	...	...	म्ण	...	...	...	...	म्न	म्प	म्फ	म्ब	म्भ	म्म	म्य	म्र	म्ल	म्व	...	...	...	...	...	...	...	...	...	...	...	...	...	11
य	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	य्य	...	...	य्व	...	...	...	...	...	...	...	...	...	...	...	...	...	2
र	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	र्या	...	...	...	...	...	...	...	ह्रा	...	...	...	...	...	...	...	...	...	2
ल	क्ल	...	ल्ग	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	ल्प	ल्फ	ल्ब	ल्भ	ल्म	ल्य	...	ल्ल	ल्व	ल्श	...	ल्स	ल्ह	ल्ह	...	...	...	ल्ई	ल्य	...	...	...	15
व	...	...	...	...	...	...	...	...	...	...	...	...	...	...	व्ण	...	...	...	...	व्न	...	...	...	...	...	व्य	व्र	व्ल	व्व	...	...	...	...	...	...	...	...	...	ल्य्य	...	...	...	6
श	श्क	...	...	...	...	श्च	श्छ	...	...	...	...	...	...	...	...	...	...	...	...	श्न	श्प	...	...	...	श्म	श्य	श्र	श्ल	श्व	श्श	...	...	...	...	...	...	...	...	...	...	...	...	11
ष	ष्क	...	...	...	...	...	...	...	...	...	ष्ट	ष्ठ	...	...	ष्ण	...	...	...	...	...	ष्प	ष्फ	...	...	ष्म	ष्य	...	...	ष्व	...	...	...	...	...	...	...	...	...	...	ष्ट्र	...	ष्व	11
स	स्क	स्ख	...	...	...	...	...	स्ज	. .	...	...	...	...	...	...	स्त	स्थ	...	...	स्न	स्प	स्फ	...	...	स्म	स्य	स्र	...	स्व	...	स्स	...	...	...	...	...	...	स्य	स्र	...	स्व	16
ह	...	...	...	...	...	...	...	...	...	...	...	...	...	...	ह्ण	...	...	...	...	ह्न	...	...	...	...	ह्म	ह्य	ह्र	ह्ल	ह्व	...	...	...	...	...	...	...	...	...	ह्र	...	...	8
ळ	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	..	...	...	...	...	...	...	2
क्ष	...	...	...	...	...	...	...	...	...	...	...	...	...	...	क्ष्ण	...	...	...	...	...	...	...	...	...	क्ष्म	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
ज्ञ	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	
																																											378

Specimen of Devanagari Writing

(*Inscriptions, Copper-plates and Paper MSS*)

(*Chapter VI : Plates 38 to 78*)



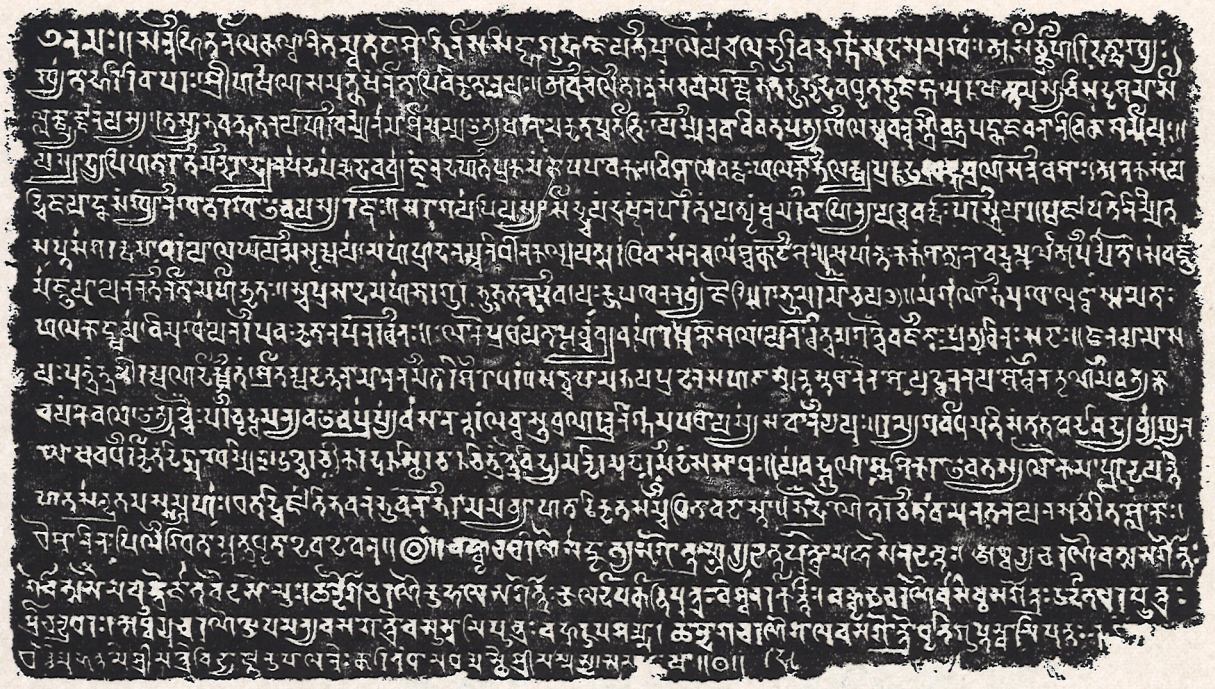
Nagabandha illustrating Devanagari letters

Courtesy: Cor. Inscri. Indi., Vol. III

Asirgadh Seal of Sarvavarman

H 5447—13B*a*

PLATE 40



Scale 0·3.

Photo-lithographed at the Survey of India Offices, Calcutta, February 1894.

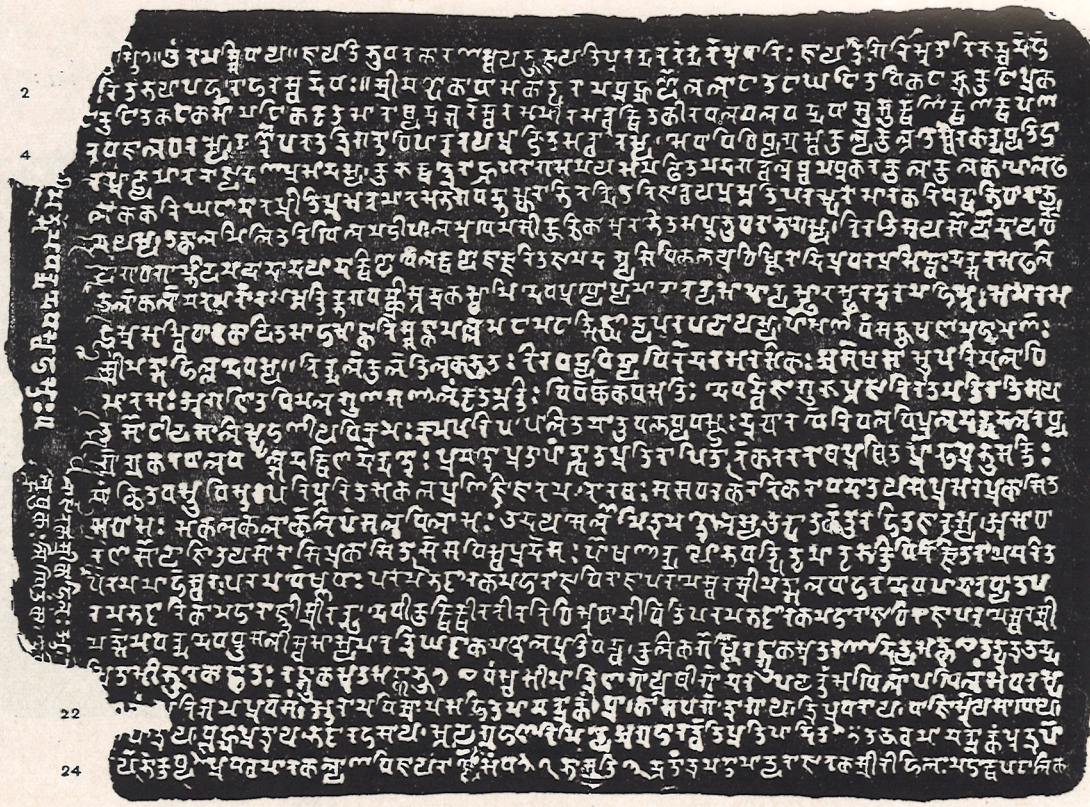
(१) ओ नमः। सन्निहितनील कण्ठा नितम्बतटशोभिनी ससिङ्ह गुहा। जयति प्रालेयाचलभूरिव दुर्ग्गा सदा सुमुखा ॥ १ ॥
आसीच्छी हरिदत्तारव्य :

(२) ख्यतां हरिरिवापर :। श्रीहर्षेण समुत्कर्षं नीतोपि विकृतो नय :॥ २॥ अविचलितरत्न संचयमक्षोभितभू –

(३) ल्लक्ष्म्रार्ज्जन यस्य ॥ ३ ॥

Kudarkot Inscription

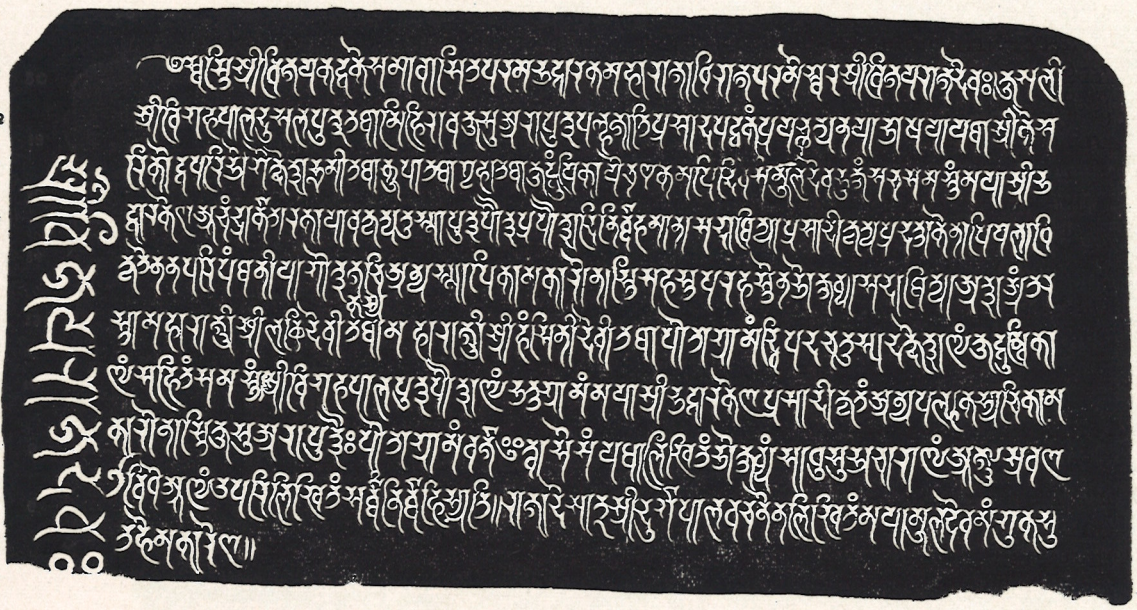
PLATE 41



Courtesy : Anti. Chamba State.

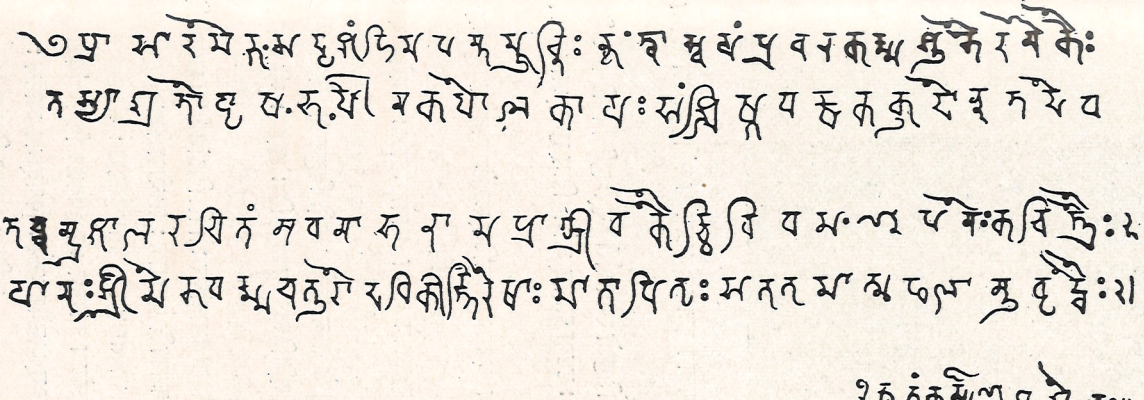
Kulait Copper-Plate Grant deed of Somavarma (Sharada script).

SCALE 0·65



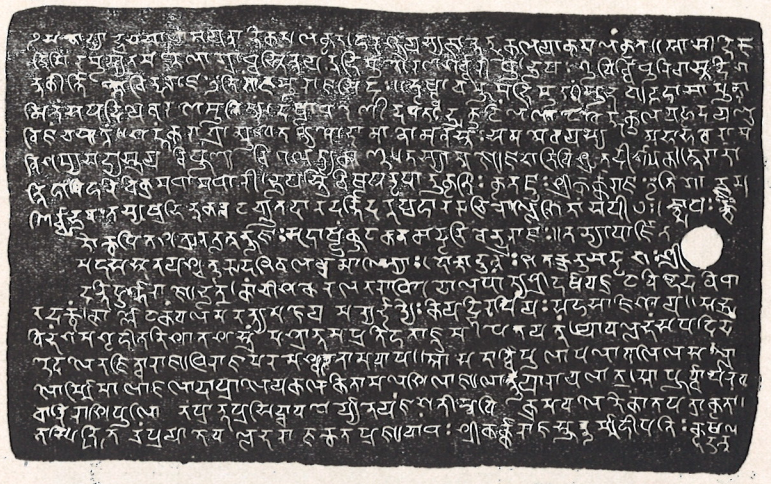
Courtesy: Epigraphica Indica, Vol. III

India Office Plate of Vijayarajadeva



१ ओं प्रासाद मेरुसदृशं हिमवन्त मूर्ध्नि : कृत्वा स्वयं प्रवर कर्म्म शुभैर नकै :
१अ तच्चन्द्रशाल रचितं नवनाभनाम प्राग्ग्रीव कैर्न्वि विधमण्डपनै : कचितौ : ॥
२ तस्याग्रतो वृषभ पीन-कपोल कायः संश्लिष्ट वक्ष ककु दोन्नत देव--
२अ यान : श्री मेरूवर्म्म – चतुरोदधिकीर्त्ति रेषाः मातापितृ : सततमात्म फलानुवृद्धै–
कृत कर्म्मीण गुग्भेन : ॥

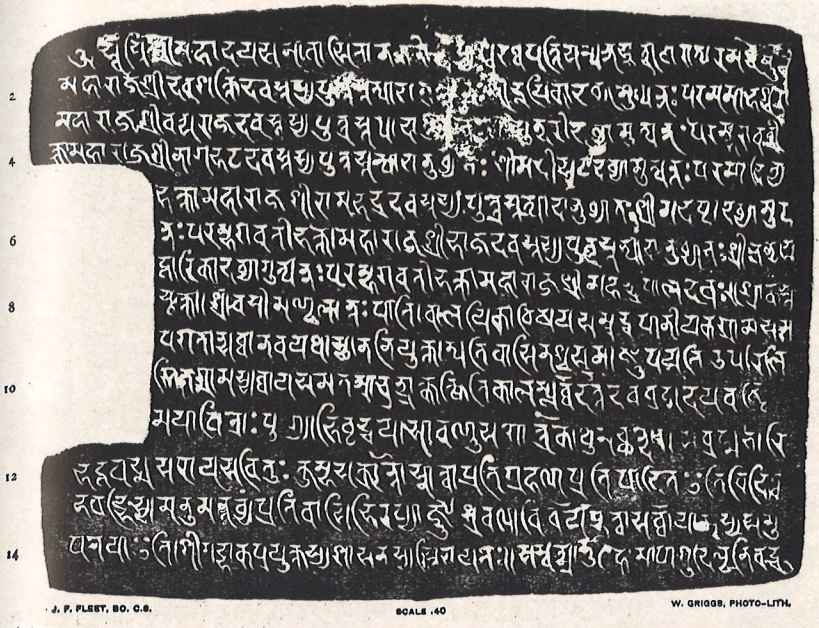
Nandi Inscription (*Brah mor and Chatrashi Inscriptions*)



१. ओं स वोव्याधु वेधसा धाम् यन् नाभिकमलाम् कृतम् हर्ष छायस्य कांतेन्दुकलया कमलाम् कृतम् आसीदम्
२. तिमिरम् उद्यात मंडलाग्रो ध्वस्तिन् नयनाभिमुखो रणशर्वारीपु भूपः शुचिर्विधुदिवास्ट दिगा
३. ना किर्ति गोंविंदराज इति राजसु राजसिः दृष्टवा चाम्म् अभिमुखिम् सुमट् आट हासाम् उन्ना—
४. मितम् सपदि ये रणेसु नित्यम् दृष्टा धरेण दधता भ्रुकुटिम् ललाटे खड्गम् कुलम् च हृदयंच
५. निजम् च सत्वम् गखहगम् कराग्रान् मुखतस्य शोभा मानो मनस्तः सममेव यस्य मभाभेव नाम
६. निशम्य सध्यस्तृयम् रिपूणाम् विगलत्यकाण्डे तस्यात्मजो जगति विश्रुत दीर्घकिर्ति आटा
७. र्ति हारि हारिविक्रम् ध्या धारी भूप सूत्रिविस्टप नृपानुकृति : कृतज्ञः श्री कर्कराज इति गोत्रम्
८. निर्वाभूव तस्य प्रभिन्न कताच्यूत दान दन्तिदन्त प्रभारुचिर ओ लिखितांसपीठाः क्षमापःक्षि
९. तौ क्षपित शत्रुरभूत तनूजः सद्राष्ट्रकूट कनकाद्रि ऐन्दराज : तस्योपारीजात
१०. महसस् तनयश चतुर्दधिवलय मालिन्याः भोक्ता भुव : शतक्रतुसदृश : श्री
११. र्दंतिदुर्गराजोभूत कांचीश केरळ नराधि - चोला चांण्डय श्री हर्षवज्रट विभेद विधा
१२. ना दक्षम् कर्णाटकम् वलम् अनंतम् अजयम् अन्यैर भूत्यै : कियद्भिर अपिय :
अपिथ : सहसा जिगाप ब्र.

Courtesy: Epigraphia Indica *Vol. III*

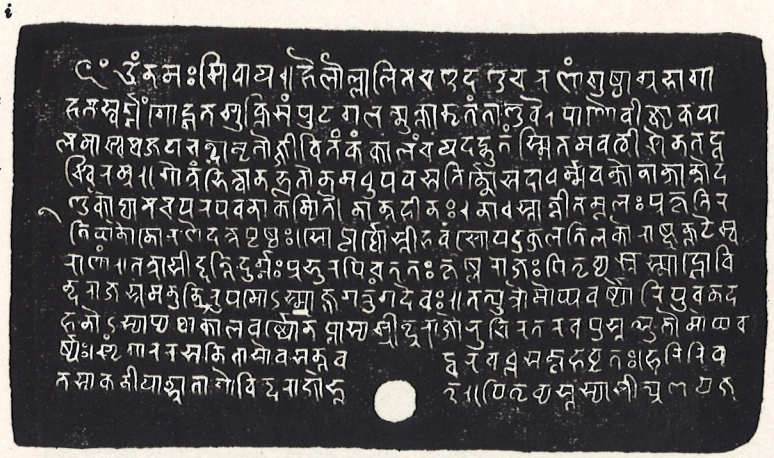
Paithan Plate of Govinda III (*Shaka* 716)



J. F. FLEET, RO. C.S. SCALE .40 W. GRIGGS, PHOTO-LITH.

ओं स्वस्ति श्री महोदय समावासितानक गोहस्त्यश्वरथ पत्ती सपन्न स्कन्दा दारात् परम वैष्णव महाराज श्री देवशक्ति देवस्तस्य पुत्रस्तत्पादानुध्यात : श्री भूयिकादेव्याम् उत्पन्नः परम माहेश्वरो महाराज श्री वत्सराज देवस्तस्य पुत्रस्तत्पादनुध्यातः श्री सुंदरी देव्याम् उत्पन्नः परम्भागवतीभ क्तो महाराज श्री नागभट द्वास्तस्य पुत्रस्तत्पादानुध्यात : श्री मद्ईस्ट देव्याम् उत्पन्नः परमादित्य भक्तो महाराज श्री रामभद्रदेवस् तस्य पुत्रस्तत्पादानुध्यात : श्रीमद् आप्पादेव्याम् उत्प न्नः परमभगवती भक्ता महाराज श्री भाजदेवस् तस्य पुत्रस् तत्पादानुध्यात : श्रीचंद्रभ ट्टारकाद्व्याम् उत्पन्नः परमभगवती भक्तो महाराज श्री महेद्रपाल देव : श्रावस्ती भुक्तौ श्रावस्ती मंडलांतः पतिवालायिका विष्यसंबद्ध पाणीयाकग्राम समु पगतान् सर्वान् ऐव यथास्थान् नियुक्तान् प्रतिवासिनाश् च समाज्ञापयति उपरि लिखित ग्रामस् सव्याय समेत आछांद्राक्कक्षिती कालम् पूर्वदत्त देवब्रत्म-देया वर्ज्जितो. माया पित्रो : पुण्या भिवृद्धये सावर्णसगोत्र कोटुंबचछान्दोगसब्रह्म चारि भट्ट पद्भसाराय सवितुः कुंभ संक्रान्तो स्नात्वा प्रति ग्रह्येण प्रतिपादन इति विदित्वा भवद्भिस् समनुमन्तव्यम् प्रतिवासिभिर्ण्याज्ञाश्रवण विध्येयइ भूत्वा सर्वाया अस्य समु पानेया इति श्रीमद्भक प्रयुक्तस्य शासनस्य स्थिरायतेः संवत्सरा १०० ५० ५ माघ-शु दि १० निवधम् ।

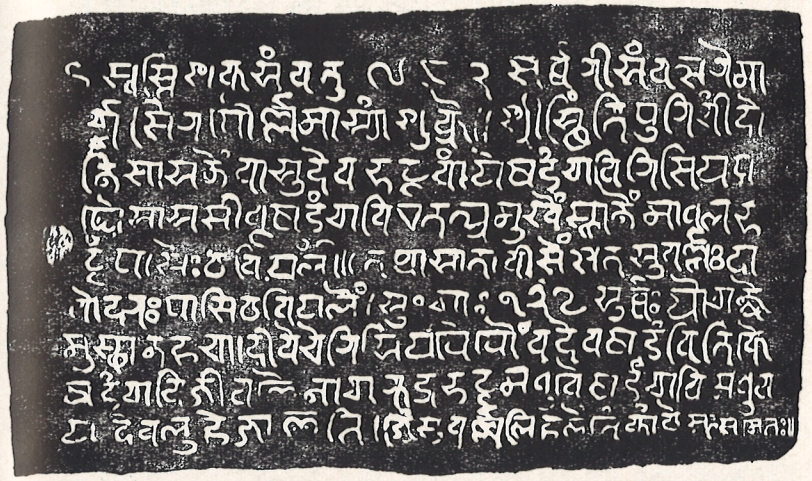
Dighwa-Dubanli Plate of the Maharaja Mahendrapala (*A. D.* 955)



आ ओ नम : शिवाय हे लोल्लालित चंण्डदण्डचरण आंगुष्ठाग्रभागा
हतस्वर्गम् गोद्रतशुक्ति सम्पुट गलन्मुक्ता भृतम् ताण्डवे पाणौवीक्ष्यकणा
लम् आश्वथ जटाचंद्रामृसाजीवितम् ककालम् च यद्भूतम् स्मितम् अवत् विशेन तद्व
श्विरम् गोत्रम् भित्वा नभूतो न मधुण वसतिनोसदा धर्मवक्रो नाक्रान्तोद्
दण्ड कोट्या न च परपवनाकंपितो नान्तहीनः ना अध्स्तान्नित मूल : प्रकृतिर
तिधनो नो रणं दत्त पृष्ठ : सो पूर्वोस्तीह वंशो यर्दुकुलतिलको राष्ट्रकुटश्च
राणाम् तत्रासिद् दंतिदुर्ग : प्रभूरपि च तत : कृष्ण राज : पित्रव्यस्तमाद् गोवि
न्दराजस्तमनु निरुपमोस्माज् जगतुमृगतव : तत्पुत्रो मोघवर्ष्यो रिपुवनद्
हनो स्थापथ् आकाल वर्षस्यो तप्तास्य श्री इन्द्रराजो रुचिरदवपु : तत् सुतोमाधव
र्ण : शृंगार रसानिवासो वसंत वद् वरवधु समूह वृत्त : हरिरिव
तस्य कनीयान्भ्राता गोविंदराजो भूत पितृव्य तस्य आशीत् प्राणयज

Courtesy : Epigraphica Indica, Vol. III

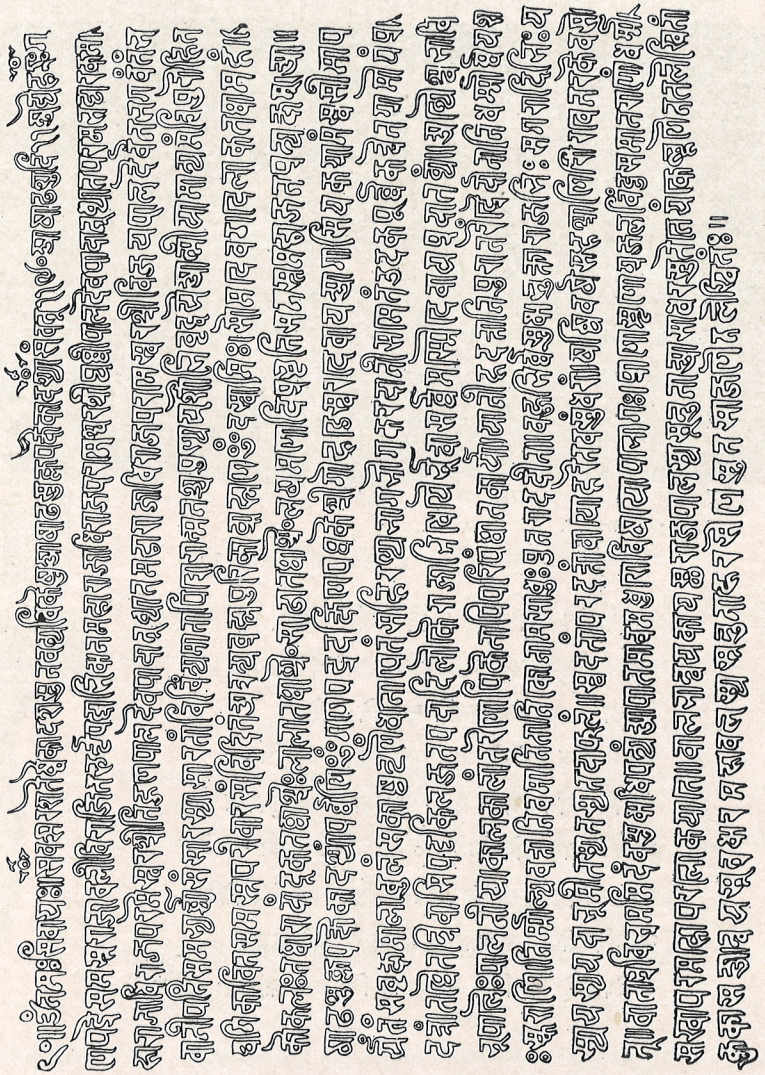
Kharepatan Plate of Satyasraya II and the Mandalika Rattaraja (*Shaka* 930)



Courtesy : Dr. M. G. Dixit

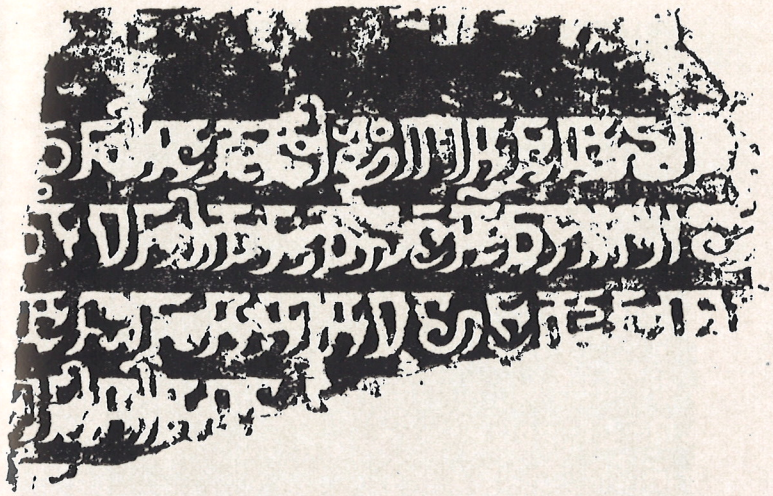
Deve-Agar Copper plate A.D. 1060

1. ॐ स्वस्ति शक संवतु ९८२ सर्व्वरी संवसरे मा-
2. र्गासिर पौर्ण्णमास्यां शुक्रे ॥ श्रीस्थितिपुरिचीं दो-
3. नि सासने वासुदेवभट्टवांये षडंगवि रिसियप
4. घैसास सीवू षडंगवि एतत्प्रमुखें स्थानें मावलभ-
5. ट्टं पासेः ठवियलीं ॥ तथा सातावीसें सत सुवर्ण्णः दा-
6. वोदरः पासि ठवियलें । सु० गाः १२७ सुर्व्वः योगक्षे-
7. मु स्थानहचा । दीवेचे रिसियपै पौंवदेव षडंवि तिकै
8. षडंगवि जीवणै नागरुद्रभट्ट मधुवै षडंगवि मधुव-
9. य देवलु हे जाणति । जें सुवर्ण्ण लिहलें तें कांठेअः समेतः ॥



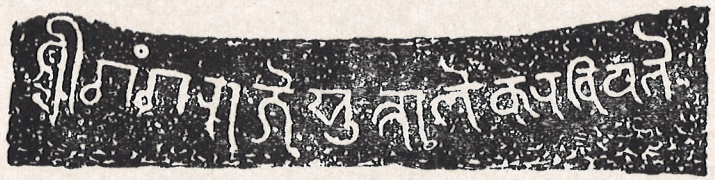
Silasana of Vijayapala Devan (A.D. 1123-4)

PLATE 48



(a) Reproduction of rubbing of a stone carved in reverse, Tenth century, State Museum, Dhar.

श्री चावुण्डराजे करवियलें (A.D. 983)

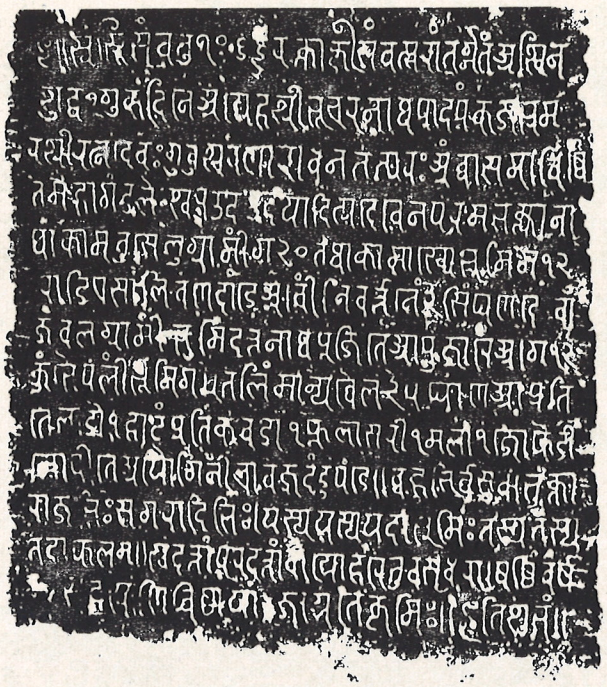


श्री गंगराजें सुत्तालें करवियलें. (A.D. 1116-17)

Courtesy : Dr. Hultzcch.

(b) Sravana Belgola Inscription, Mysore.
(Sravana Belgola, Chennarayapatan, Dist. Hasan, Mysore)

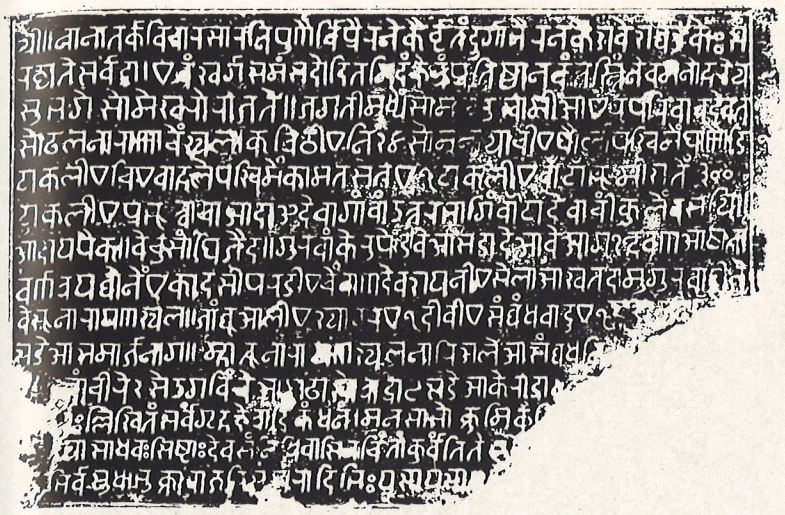
PLATE 49



Courtesy : Dr. M. G. Dixit.

1. ओं ॥ स्वस्ति संवतु १०६६ रक्ताक्षी संवत्सरांतर्गतं अश्विन
2. शुद्ध १ गुरुदिने अद्येह श्रीभूचरनाथ पादपंकजभ्रम-
3. र श्रीरत्नदेवः गुरुश्चरणाराधनतत्परः अंबासमाधिष्ठि-
4. त महामंडलेश्वर उदउदयादित्यदेवेन परमभक्त्या ना-
5. था कामतु सेलुग्रामीं ग २० तथा कामाख्ये भूमि ग १२
6. राडिए सालिवण दांडेआचीं निवर्त्तनें ३ सिंघण देवां
7. जवलग्रामीं भुमि दत्त नाथपूजितेआ पुजारेआ ग १२
8. कुंभैपलीं भूमि ग ५ तलिं मान्य बैल ३५ घाणआप्रति
9. तेला डो १ हाटंप्रति कवडा १ फूलासरी १ मला १ जो फेडी
10. लोपी तेआ योगिनींचा वज्रदंडु पडे ॥ बहुभिर्व्वसुधा भुक्ता
11. राजभिः सगरादिभिः । यस्य यस्य यदा भूमिः तस्य तस्य
12. तदा फलम् ॥ स्वदत्तां परदत्तां वा यो हरेतु वसूधरा । षष्टिं वर्ष-
13. सहस्राणि विष्ठायां जायते कृमिः ॥ इति शुभं ॥

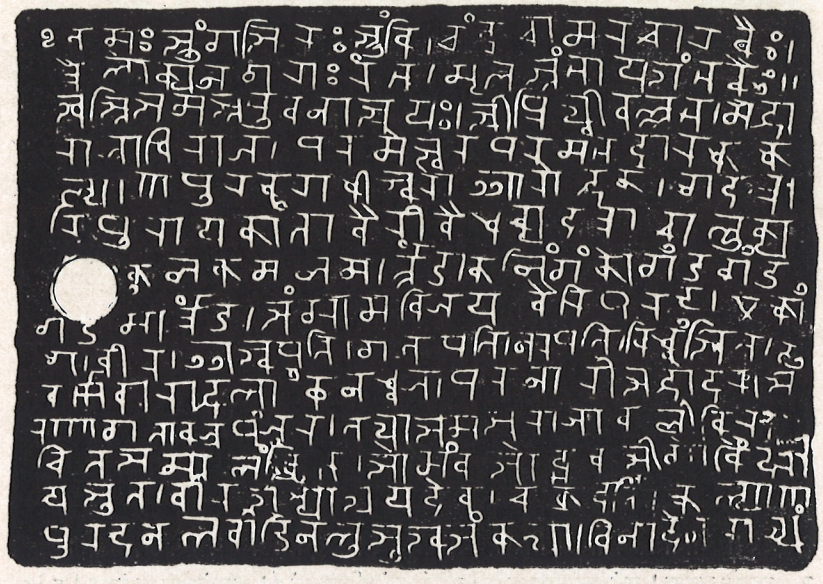
Amben Inscription of Gunga Udayadityadev. (A.D. 1144)



१ श्री ॥ नानातर्कविचारसारनिपुणैर्विप्रैरनेकैर्वृतं (।) दुर्गाभैरव (व) केशवेशबटुकैः सं-
२ रक्ष्यते सर्वदा । एवं स्वर्गसमं सदोदितमिदं क्षेत्रं प्रतिष्ठावकं (।) तस्मिनेव मनोहरे [ऽ]थ
३ सुभगे सोमेश्वरो राजते ॥ जगतीमध्ये सोमेस्वरुस्वामीआ एरपरिवारदेवत
४ सोढल नाराणाचें स्थल । कविठीए नि २४ सोमनाथाचीए पौली पस्चिमें घाणौडि १
५ टाकलीएचिए वाहले पस्चिमें कामतसेतु ए १ टाकलीए वॉटॉ भूमी शतें ३००
६ टाकलीए प्रभूत्वाचा आदाओ देवा गांवां उत्तरभागिं वॉटा देवाचीं कुलें वसथि ॥
७ आदाय पैक ॥ वेचु सांधिजे द ॥ गुरवांकेरु फेडावेआ सडा देआवेआ ग १ न्हवण आषता
८ वर्णत्रय बोनें एकादसी परडीएचें वाण देवशयनीए सेला आखतदामु गुरवा दीजे
९ वेसू नारायण स्थल ॥ जांबूआलीए स्थावर ए १ दीवीए संबंध वाडु ए १ सस्र मढा
१० सडेआ समार्जना ग ॥ म्हातू नारायणस्थल नारिअलेआ संबंध नि ८ हे.....
११ ...चीरे २ सेउगविंचेआ मढा स्वोत्रा द्रा ८ सडेआ केरा द्रा ४.....
१२ ...ल्लिखितं सर्वं गृहक्षेत्रादिकं धनं मनसा भोक्तुमिच्छंति.....
१३ ...स्था साधवः सिष्टाः देवसंनिधिवासिना चिंतां कुर्वंति ते.....
१४ ...भिर्वसुधा भुक्ता राजाभि सगरादिभिः यस्य यस्य.....

Someshwar Inscription at Paithan (Twelfth Century)

(Found in a *Maharashtra Math* at Paithan, Dist. Aurangabad)

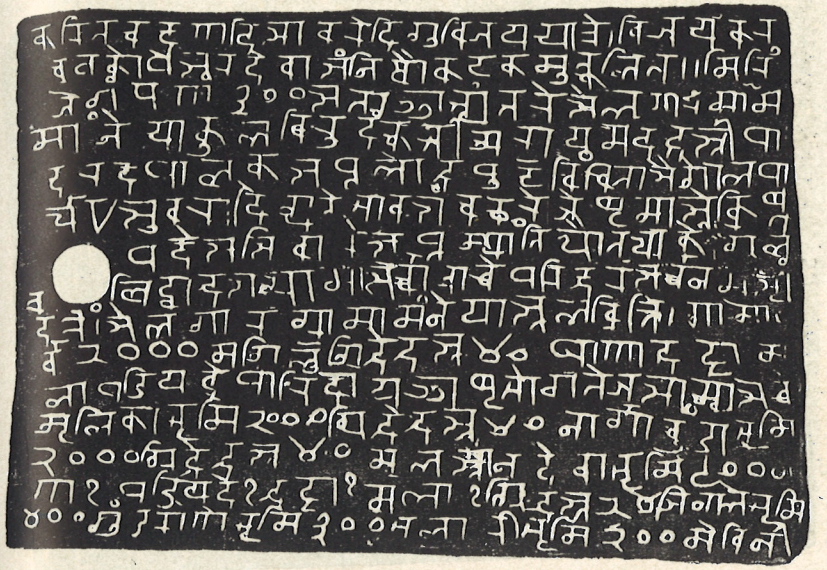


Courtesy : Indian Antiquary *Sheet I*

1. नमःस्तुंगसिरःस्चुंबि। चद्रंचामरचारवै ः।
2. त्रैलोक्यनगराः रंभ। मूलस्तंभाय शंभवैः॥
3. स्वस्ति समस्तभुवनास्रयः। स्त्री प्रिथ्वीवल्लभ। महा-
4. राजाधिराज। परमेश्वर परमभट्टारक क-
5. ल्याण पुरवराधीस्वर। आरोहक। [भ] गदत्त।
6. रिपुरायकांतावैरीवैधव्यदत्त। चालुक्य-
7. कुलकल्पमार्त्तंड। कलिंगंकोगंडगंड [।]
8. गंडमार्त्तंड। संग्राम विजय [।] वैरिघरट। एकां-
9. ग–। वीर। अस्वपति–गजपति–। नरपति–। विध्वंसित। सु-
10. वर्ण वाराहलांक्षनध्वज। परनारीसहोदर। स-
11. रणागता वज्रपंजर। तथा समस्त राजावलीविरा-
12. चित-समालंक्रित। सोमवंसोद्भव स्त्रीगोविंदरा
13. यसुत। वीर सत्यास्त्रयेदेव। चक्रवर्ति। कल्याण-
14. पुरद नलवीडिनलु सुखसंकथा। विनोदेन राज्यं

Chalukya Virasathyashrayadeva Inscription, Miraj (A.D. 1154)

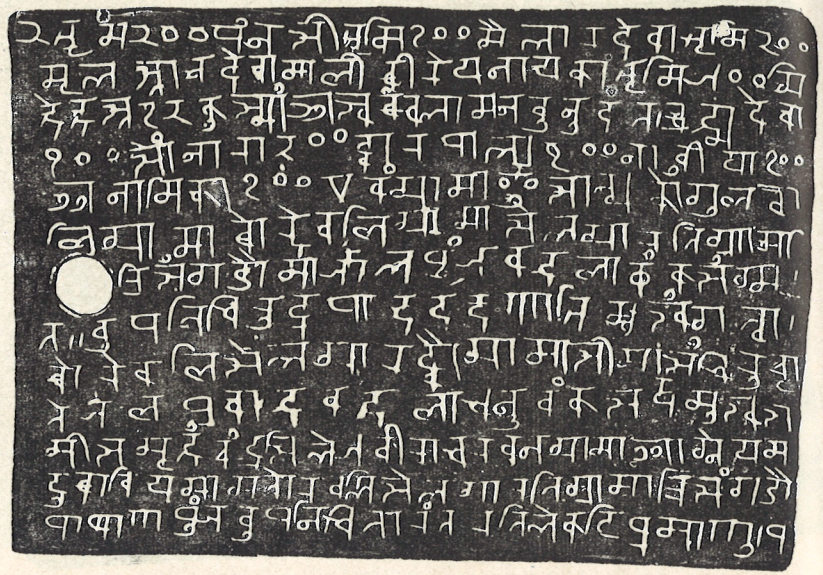
PLATE 52



Sheet II (Front)

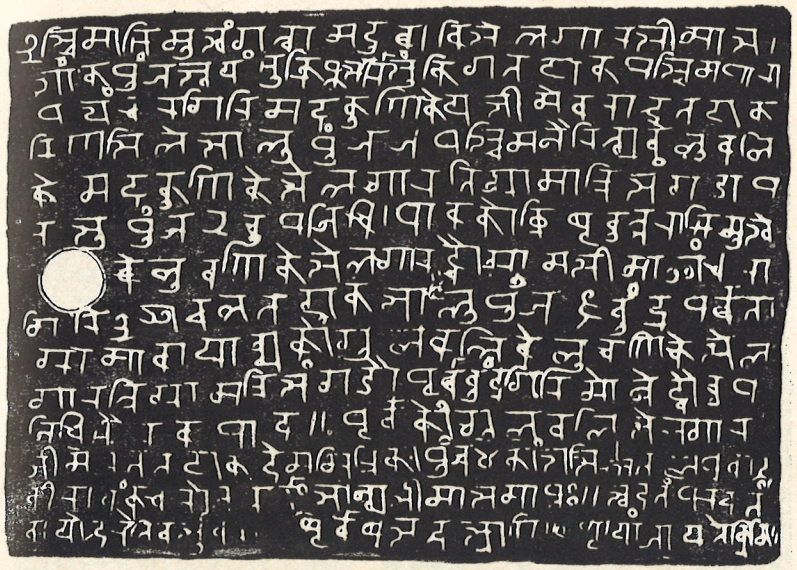
15. करित दक्षण दिसावरे दिगुविजययात्रे। विजय कर-
16. वुन कोपेस्वरदेवा संनिधौ कटकमुत्कलित॥ मिरिं-
17. जे गंपण ३०० सत अभ्यंतरे सेलगार ग्राम
18. मांनेया कुलबिरुदंक भीमराय मद्दहस्तीपा-
19. दरक्षपालक सप्तलोहपुटधिं धित। सैगोलपा-
20. र्थ एसुवरा दिव्यते भाव संवछरे जेष्टमासे क्रिष्न
21. पक्षे ससिवारे सप्तम्यां तिथौ तथा कोंगुल-
22. वलि द्वादशग्रामा सर्बा [र्वा] वा [बा] धे परिहरं सर्बनमस्यं
23. दत्तं। सेलगार ग्रामा मंनेया सालब्रित्ति। ग्रामा (स)-
24. र्व २००० मगिलु ग्रिहे हस्त ४० घाणा हट्टा म-
25. ला पडियदे पारिक्षाय अष्टभोगतेजसाम्य सर्ब-
26. मूलिका भूमि २००० ग्रिहे हस्त ४० नार्गावुंडा भूमि
27. २००० ग्रिहे हस्त ४० मूलस्तानदेवा भूमि ६०० घा-
28. ण १ पडियदे १ हट्टा १ मला १ ग्रिह (ह) स्त २४ जिनालि भूमि
29. ४०० गुंडराणे भूमि ३०० भलारी भूमि २०० मेविनी

PLATE 53



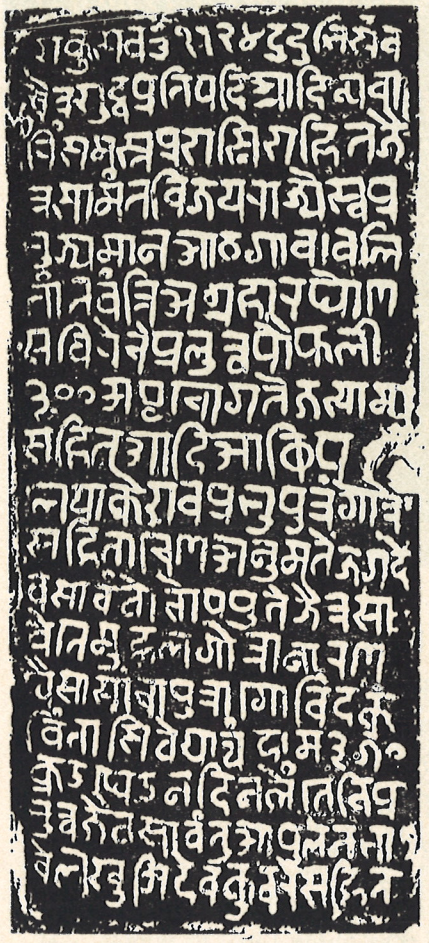
Sheet II (Back)

30. २ भूम २०० पंनसी भूमि १०० मैलारदेवा भूमि २००
31. मूलस्तानदेवा माली बीरेयनायका भूमि ५०० ग्रि-
32. हे हस्त १२ कुस्मां अस्व बंधला मनवुनु दत । ब्रह्मदेवा
33. १०० सोंनारा २०० द्वारपाला १०० नावीया १००
34. अनामिका १०० एवं ग्रामा ईसान्य कोंगुलव–
35. लि ग्रामा बोरेवलि ग्रामा सेलग्रा [गा] र ति ग्रामा
36. त्रिसंगडौ मी [मा] जलिपुंज बहला छंक सम्म–
37. त ॥ वुपनिधि रुद्रपाद दक्षणाभिमुखं गत्वा ।
38. बोरेवलि सेलगार द्वौ ग्रामा सीमासंधि रूच्य–
39. ते जलप्रवाह वहला धन्रुवंक सर्पमुख श–
40. मीसमूहं चंद्रसिले ५ वीरा धरवुन ग्रामा आग्नेय म–
41. दुबाविय ग्रामा वोरबलि सेलगार ति ग्रामा त्रिसंगडौ
42. पाषाणपुंज वुपनिधि तारंतर तिलेकटि प्रमाणु । प-



Sheet III

43. ३ स्चिमाभिमुखं गत्वा मदुबावि सेलगार सीमा स– ।
44. शांकपुंज स्वयंभु क्रिष्नसर्रि सुंकिगतटाक पस्चिम पारा–
45. पथं बरागिरि मदकुणिकेय सीमे वराहतटाक
46. रिणसिलेसालु पुंज ५ पस्चिम नैरित्य बेलुवलि
47. के मदकुणिके सेलगार ति ग्रामा त्रिसंगडा प–
48. रसु पुंज २ वुपनिधि । पावकोष्ठिष्ट वुत्तराभिमुखे
49. बेलुवणिके सेलगार द्वौ ग्रामसीमा अंधरा–
50. गिरि ३ अचलतटाक सालुपुंज ६ वुंद्र पर्वत ।
51. ग्रामा वायाव्य कोंगुलवलि बेलुवणिके सेल -
52. गार त्रिग्राम त्रिसंगडौ पूर्व वुंद्रगिरि मोने द्वौ वुप–
53. निधि भैरवपाद ॥ पूर्व कोंगुलवलि सेलगार
54. सीमे रजतटाक हेममित्तिका पुंज ४ कांशसिले जलप्रवाह
55. बीरावंकधरो तथा ईसान्यसीमा समाप्तः ॥ स्वदतं परदतं
56. वा यो हेरति वसुंधरा सष्टिर्वष सहस्राणि विष्टायां जायते क्रिमि ॥

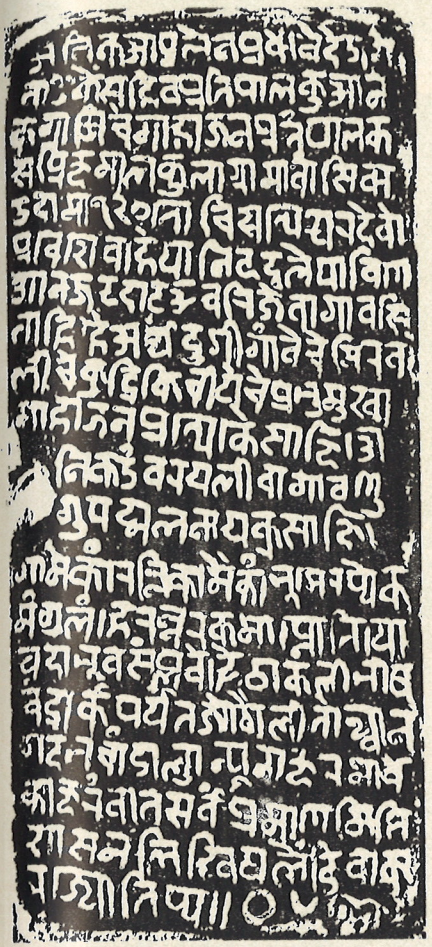


शकु संवतु ११२४ दुंदुभि संव-
छेर चैत्र शुद्ध प्रतिपदि आदित्यवा-
रिं समस्त प्रशास्तिशहित जै-
त्र सामंत विजयराज्ये स्वप्र-
भूज्यमान आढगाव वेलि-
तांतवंत्ति अग्रहार घोण-
सविरेचे प्रलु [भु] त्व पौफली-
३०० अष्टभोग तेजसा (स्वा) म्य-
सहित आंदिआछिप-
लेया केशवप्रभु पुत्रगोत्र-
सहिताचेण अनुमतें जगदे-
व सावंतोचोपपुते जैत्र सा-
वंतें मुद्गलगोत्रा नारण-
घैसासांचा पुत्रा गोविंद क्र-
विं तासि वेयार्थ दाम ३५०
क्रऊ घेउनु दिनलें तेचि प्र-
भुत्व जैत सावंतु आपुलेन भाऊ-
वे लखुमिदेवकुवरसहित.

Sheet I

Jalgav Copper-plate of Jaitra Samant. (A.D. 1202)

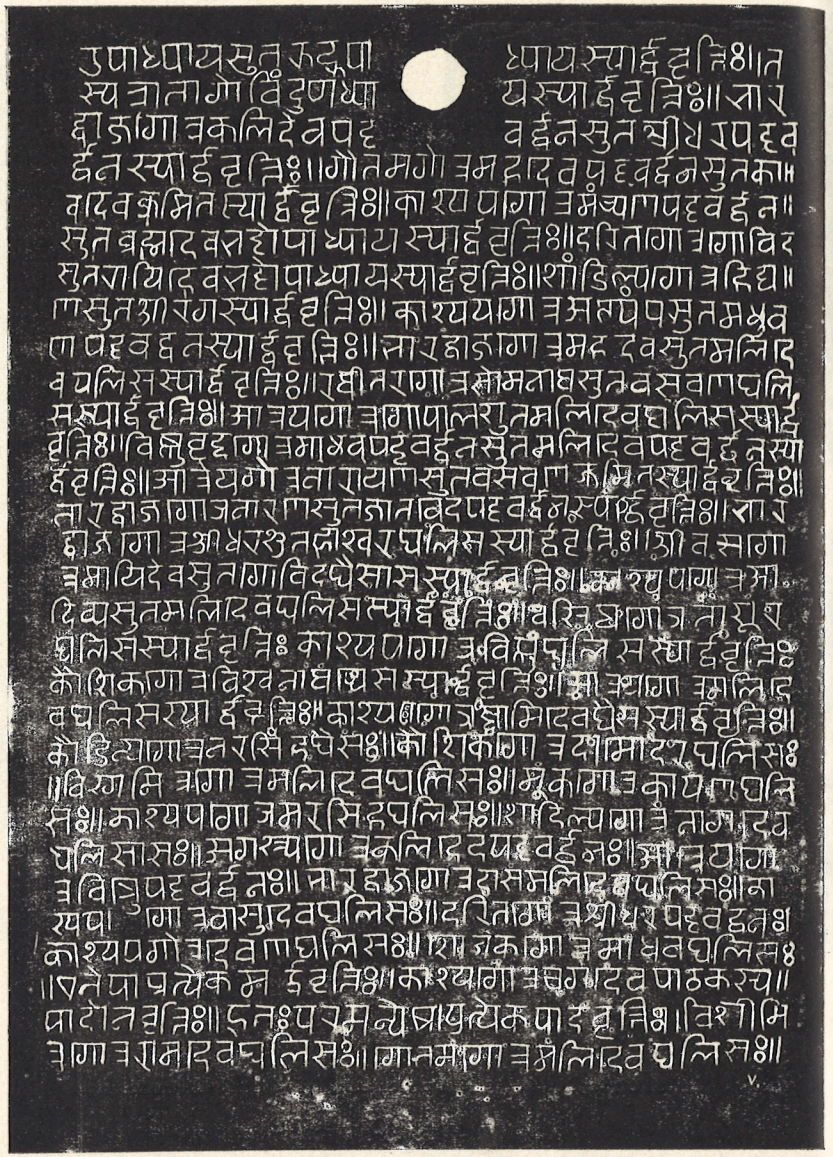
Found with Barve at Jalgav near Dapoli, Dist. Ratnagiri, Maharashtra (Prince of Wales Museum, Bombay.)



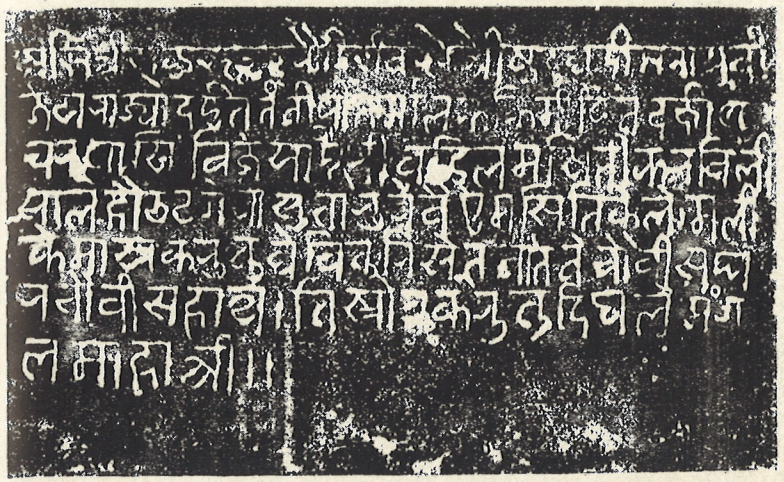
अनिक आपुलेन प्रधाने देऊगि
नाइकें सहितु प्रतिपालकु अनि-
क ग्रामिचे महाजन प्रतिपालक
सत्रिक्षमालकुला ग्रामा वासिका-
उ दामा १२० तोचि सत्येश्वरदेवो
प्रवेशे वाहेया निदद्धले याविण
आन जटदाट ओवरि जेतागावसि
ताहि हे अर्थ दुगी गांवेचे सिरव-
लॅचे कुद्रिकिचीयेचे प्रभु मुख्य
माहाजन प्रत्येकै साक्षि अ-
निक डंवरयलीचा गावणु-
गु पद्मलनायकु साक्षि-
गामेकां रत्निकामै (मे) कां भूमेरप्येक
मंगुलं । हरन्नरकमाप्नोति । या-
वदाभूव (त) संप्लवे (वम्) । हे ठाकली भाष
चंद्रार्कपर्यंत जो मैली तो श्वान
गदम चांडालु । न्यूनाक्षरमधि-
काक्षरं वा त [त्] सर्वं प्रमाणमिति
शासन लिखियलें दिवाक-
र ज्योतिष्य ॥

Sheet II

Jalgav Copper-plate of Jaitra Samant. (A.D. 1202)

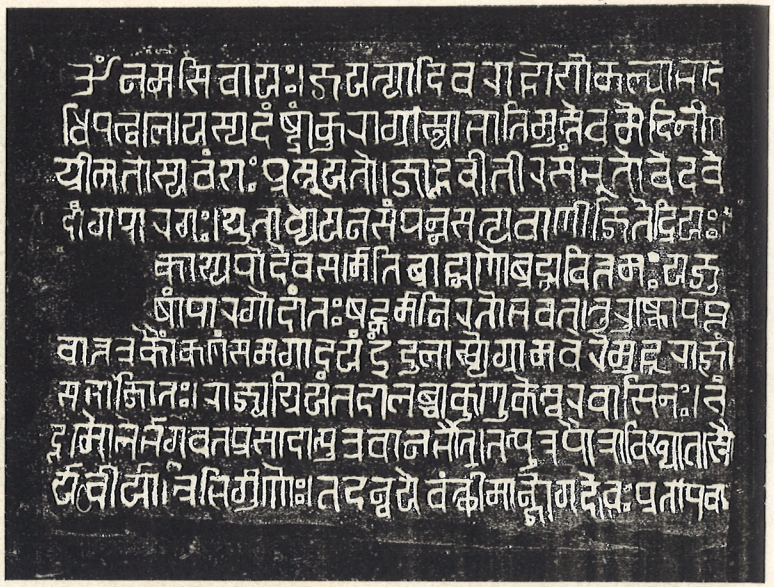


A Copper-plate: Saka 1172



Bijapur Karimuddin Mosque Inscription. A.D. 1320

१. स्वस्ति श्री सकु १२४२ रौद्रि संवछरे श्री षुबुदुदीनराय वी-
२. जेयराज्योदईत तंनीरोपीत मलिक क्रिंमीदिन दक्षणि–
३. वरणासि वीजेयापूरी वडिल मषिती करविली
४. सालहौउटगेचा सुतारु रेवैऐ मसिति केले। भली-
५. के मान्य करुनु बेवितुरि सेत नीतने चौवीस घ-
६. र चौवीस हाथ। निस्रोत्र करुनु दिधले मंग-
७. ल माहाश्री ॥

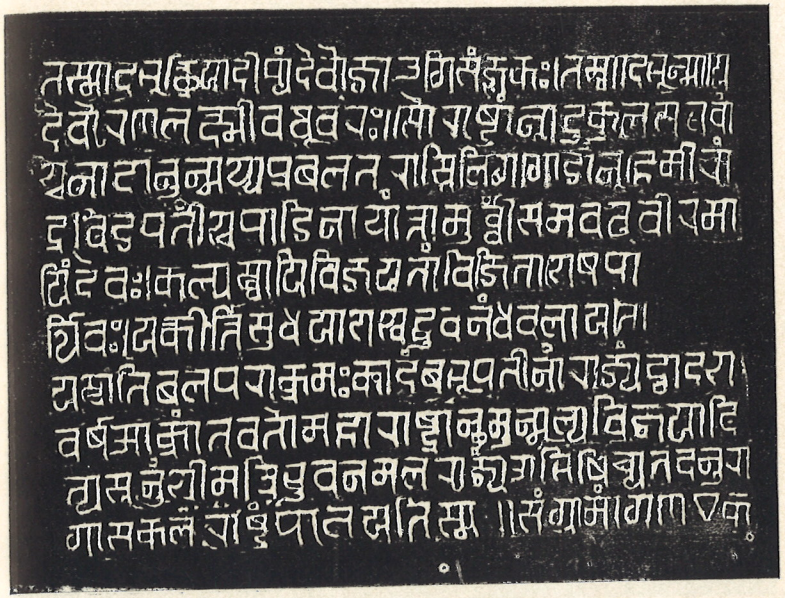


Courtesy : Dr. Tulpule.

Sheet I

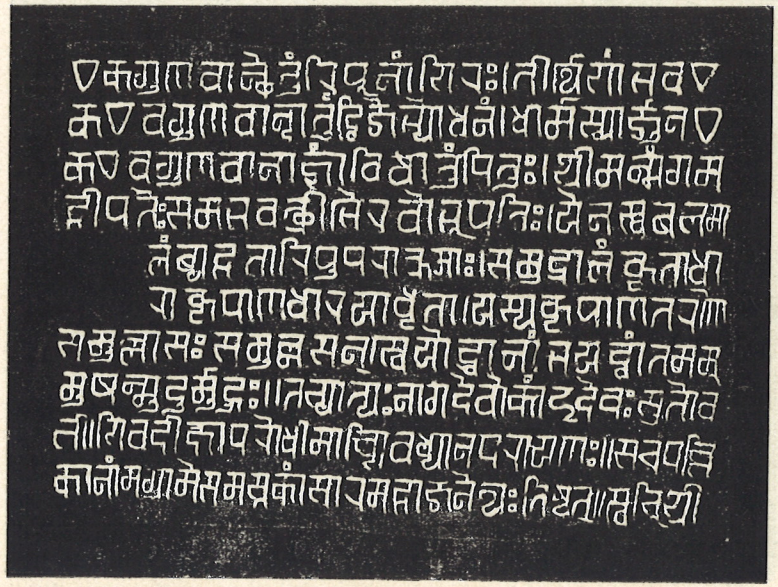
१. ॐ नम सिवायः । जयत्यादिवरा होसो कल्पांभोद-
२. धिपल्वले । यस्य दंष्ट्रांकुराग्रास्था भाति मुक्तेव मेदिनी ॥
३. श्रीमतोस्य वंशः प्रस्तूयते ॥ जान्हवीतीरसंभूतो वेदवे-
४. दांगपारगः । श्रुताध्ययनसंपन्न सत्यवाणी जितेंद्रियः ॥
५. काश्यपो देवसर्मेति ब्राह्मणो ब्रह्मवित्तमः यजु-
६. षः पारगो दांतः षट्कर्मनिरतोभवत् । तुरुष्कोपप्ल-
७. वात्तत्र कौंकणं समगादयं । इंदुलाख्ये ग्रामवरे मुहू राज्यं
८. सभाजितेः । राज्यस्त्रियं तदा लब्धा कुणुकेस्वरवासिनः । चं-
९. द्रभौलेर्भगवतप्रसादात्पुवानभौत् । तत्पुत्रपौत्रा विख्याता सौ-
१०. र्यवीर्यादिभिर्गुणैः । तदन्वये वंत्छीमान्जोगदेवः प्रतापवा (न्)

Pullika Copper plate of Samant Nagadev. (A. D. 1352)
(Found with Dharshet Kasar at Mhapuca in Goa.)



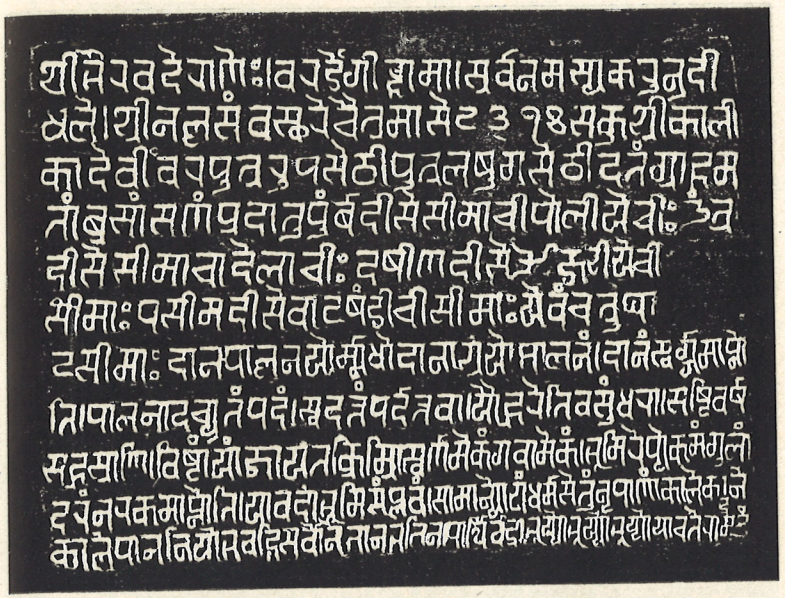
Sheet II (Front)

११. तस्मादभूत्छ्रिया दीप्यं देवोजा उगिसंज्ञकः तस्मादभून्मायि-
१२. देवो रणलक्ष्मीवधूवरः । सौराष्ट्रांन्यदुकुलसंभवां-
१३. श्च लाटानुन्मथ्य प्रबलतरांस्ति लिंगगौडन् । हंमीरां
१४. द्रविडपतींश्च पाडिनाथां त्तामूर्व्वीं समवतु वीरमा-
१५. यिंदेवः । कल्पस्छायि विजयतां विजिताशेष पा-
१६. र्थिवः । यत्कीर्तिसुधया शश्वद्भुवनं धवलायते ।
१७. याश्चातिबलपराक्रमः कादंबभूपतीनां राज्यं द्वादश
१८. वर्ष आक्रान्तवतो महाराष्ट्रान्छ्मुन्मूल्य विजयादि-
१९. त्यसूनुं श्रीमत्रिभुवनमल राज्यं अभिषिच्य तदनुरा-
२०. गा सकलं राष्ट्रं पालयति स्म । संग्रामांगण एक-



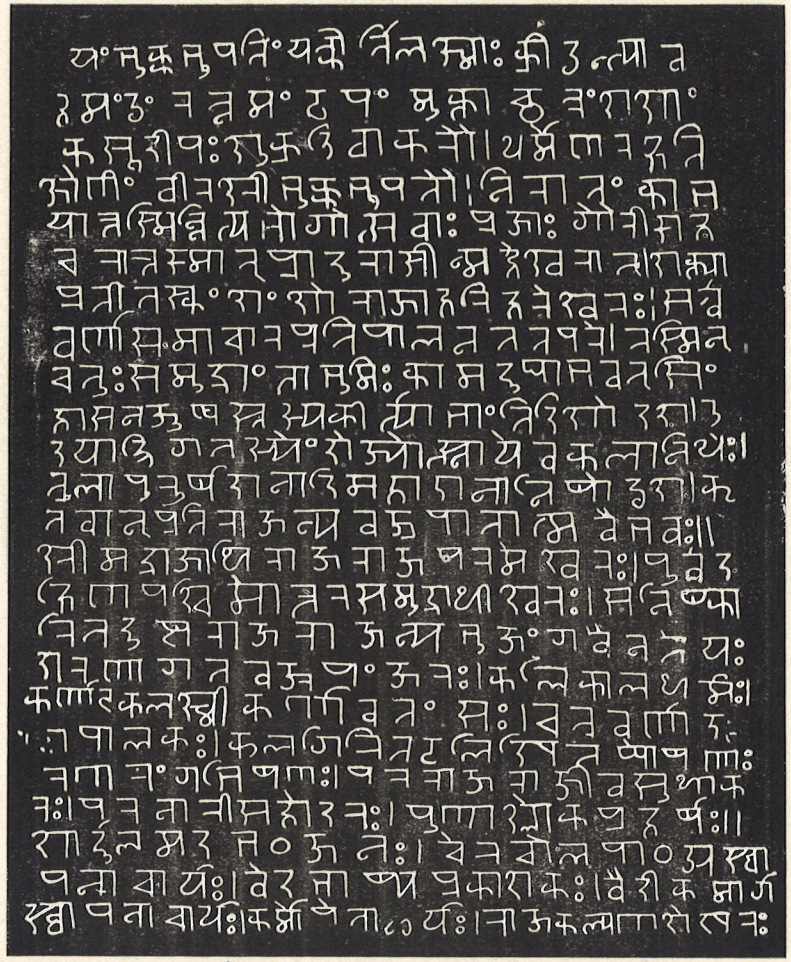
Sheet II (Back)

२१. एकगुणवान्छेतुं रिपूनां सिरः। तीर्थे शांभव ए-
२२. कएव गुणवान्दातुं द्विजेभ्यो धनं। धार्मस्यार्जुन ए-
२३. कएव गुणवानाज्ञां विधातुं पितुः। श्रीमन्मंगम-
२४. हीपतेः समभवत्छ्रीभैरवो भूपतिः। येन स्वबलमा-
२५. लंब्य हता रिपुपराक्रमाः। समुद्रालंकृता धा-
२६. रा कृपाणधारया धृता। यस्य कृपाणतरणो
२७. समुल्लासः समुल्लसन्। स्वयोद्धानां भयध्वांतममू
२८. मुषन्मुहुर्मुहुः॥ तस्यात्यः नागदेवो कांइदेवः सुतोब-
२९. ली। शिवदीक्षापरो धीमान्शिवध्यानपरायणः स च पल्लि-
३०. कानांम ग्रामे समस्तकांसार महाजनेत्यः तिष्ठत्॥ स्वस्ति श्री



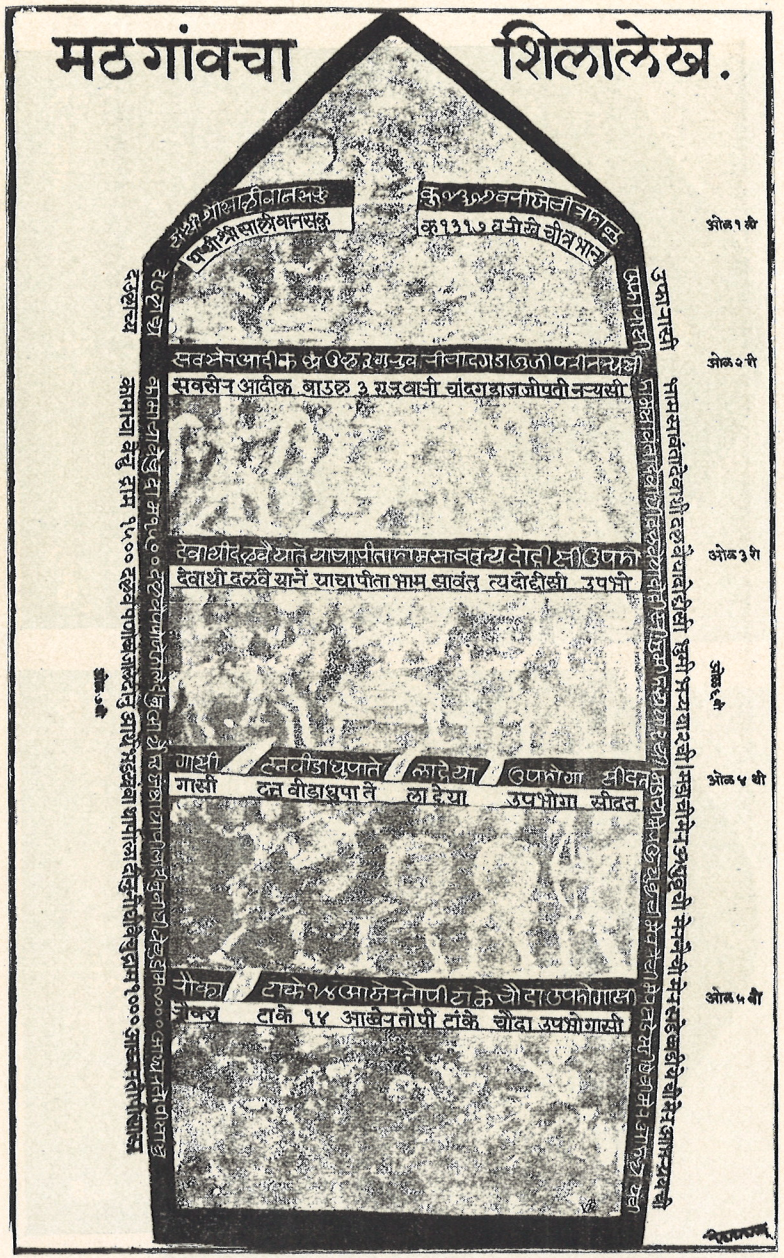
Sheet III

३१. श्रीभैरवदेराणेः। वरडें गी-हामा। सर्वनमंस्य करुनुं दी-
३२. धले। श्रीनल्ल संवच्छरे चैत्रमासे १२७४ सकु श्री काली-
३३. कादेवीवरपुत्र रूपसेठीपुत्र लषुमसेठी दतं ग्राहम
३४. तांब्रसांसणं प्रदातु पुंर्ब दिसे सीमा चीपोलीयेचीः उंत्र
३५. दीसे सीमा चादेलाचीः दषीण दिसे ओजरीयेची
३६. सीमाः पसीमदीसें वाटषंडीची सीमाः येवं चत्रुधा-
३७. ट सीमाः दानपाल्लनयोर्म्मधोदानाश्रेयोत्पालनं। दानं स्वर्गमाप्नो-
३८. ति। पालनाद्च्युतं पदं। स्वदत्तं पर्दत्त वा। यौ हरेति वसुंधरा।
३९. सष्टिवर्षसहस्राणि विष्टायां जायते क्रिमि। स्वर्गमेकं गवामेकं। भूमिरेप्येकमंगुलं।
४०. हरं नरकमाप्नोति। यावदाभूमि संप्लवं सामान्योयं धर्मसेतुं नृपाणां कालेकाले
४१. काले पालनियो भवाद्भिसर्वानेतान् भविना पार्थिवेंद्रां भूय्यो भूय्यो याचते रामचंद्र.



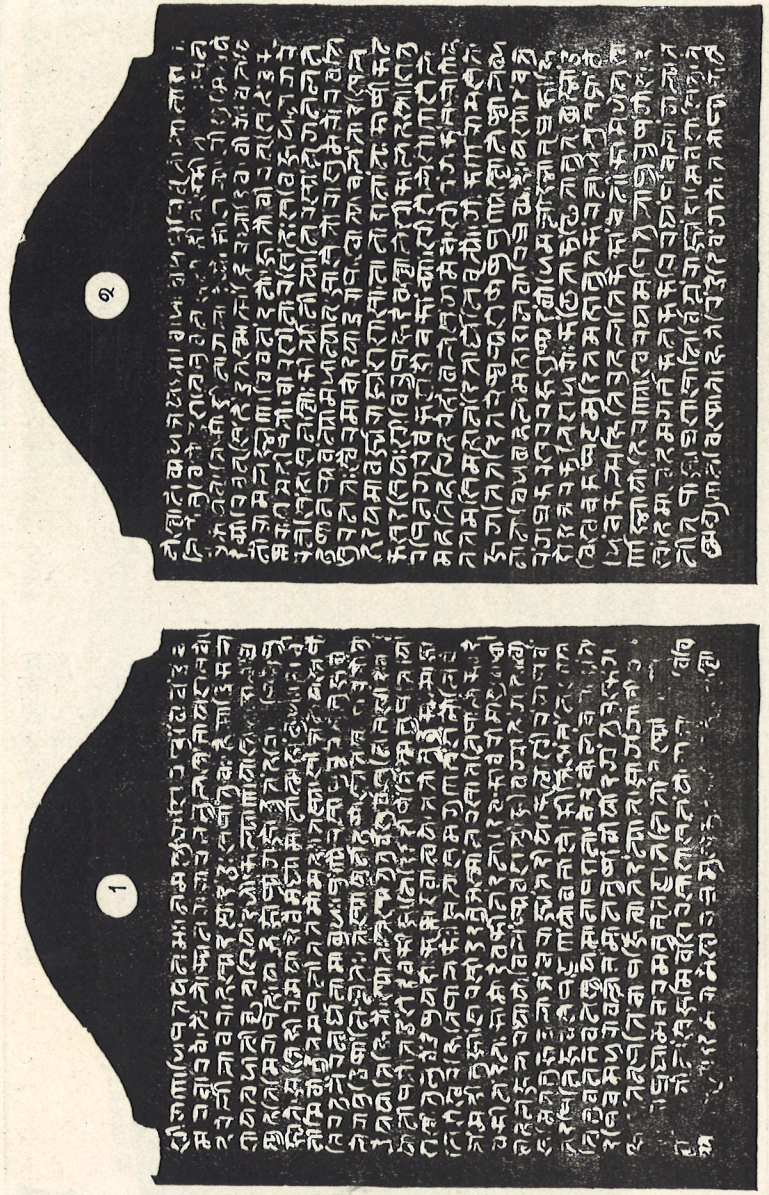
Courtesy : Dr. A. C. Burnell

Nandi Nagari Inscription from Vijaynagar (A.D. 1400)

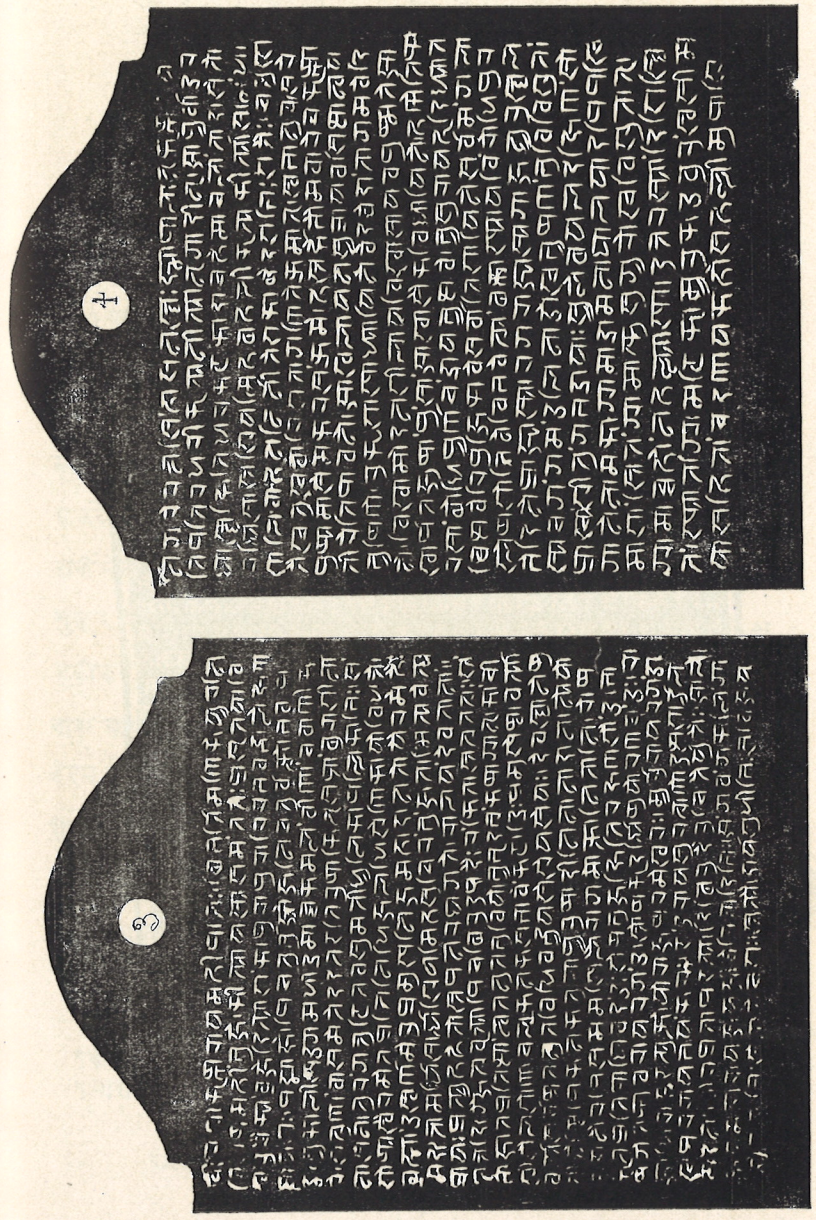


Courtesy : A. B. Walawalkar.

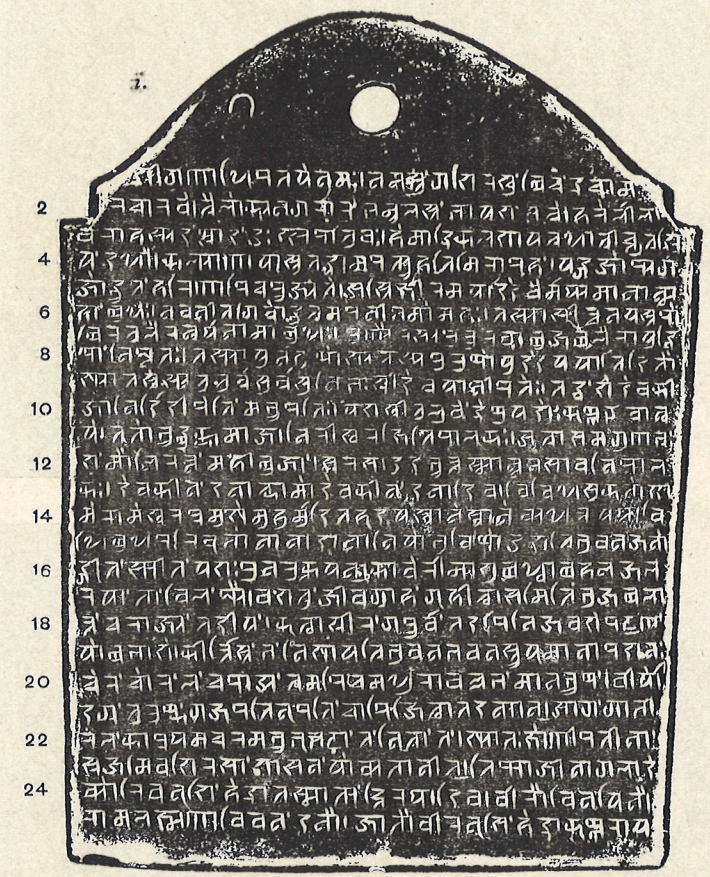
Devanagari Inscription from Mathgav near Vengurla, South Konkan. A.D. 1395.



Vijaya Nagara, Copper-plates 1 and 2 : Shalivahana Saka 1414



Vijaya Nagara, Copper-plates 3 and 4 : Shalivahana Saka 1444



Courtesy: Epi. Indi. Vol. III.

Unamanjiri Plate of Achatraya, Saka, 1462

श्रीशंकर.

श्री शंकराचार्यस्वामि जगद्गुरु

[illegible] मठ करवीर व संवेश्वर यांजकडून आज्ञा.

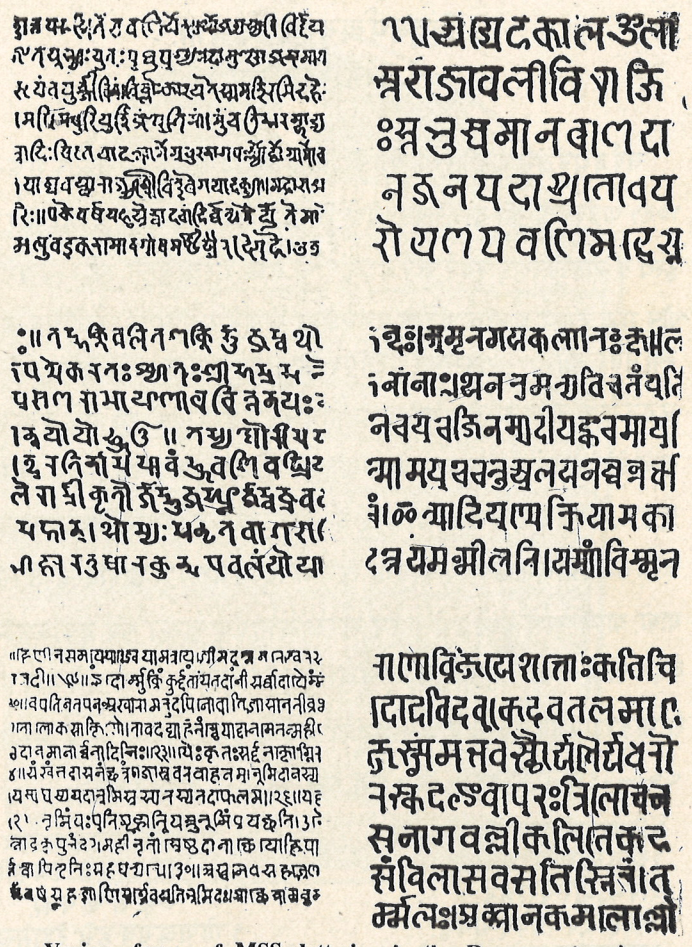
हिंदुधर्मव्यवस्थापकसभा.

(विधवा विवाह निषेध.)

सर्व ब्रह्मवृंदांस कळविण्यांत येतें कीं, मिति आषाढ शुद्ध २ रोज रविवार शके-१७९१ या दिवशीं श्री तुळशिबाग येथें भिक्षुक, वैदिक, वेदशास्त्री व थोर थोर गृहस्थ व जाहगिरदार वगैरे सर्व ब्रह्मवृंदांची सभा भरली होती, त्यांत कुमारें-पांच सहा हजार ब्राह्मण मंडळी जमल्याच्या योगानें सभास्थान [illegible] ल्या नंतर श्री [illegible] न कर्वे ऊर्फ नाना करवे व माधवराव रामचंद्र फडके यांचे हातें सर्व सभासदानीं वेद-शा- संपन्न रा-रा- गणेश बापूजी शास्त्री पाळवणकर यांस ज्येष्ठ शुद्ध ६ मंगळवार शके १७९१ रोजीं झालेल्या विधवा विवाहा बद्दल कच्ची-हकीकत निवेदन करण्या विषयीं सूचना दिल्या वरून मशारनिल्हे शास्त्री बाबा याणीं सभे मध्यें उभें राहून सरस संभाषण करून सर्व हकीकत निवेदन केली- आणि मुंबईहून आलेले हिंदुधर्मव्यवस्थापक सभेचे कारभारी पांडुरंग शिवराम भावे यांचे सहीचें पत्र वाचून दाखविलें त्यांत अन्यो- [illegible] यांचीं नांवें लिहिलें [illegible] हेम होतें.

१ विष्णुपरशराम पंडितसातारकर.		२ पांडुरंग विनायक करमरकर वत्साची विधवाविवाहाची बायको.
१ श्रीकृष्णशास्त्री नळेकर.		
१ विष्णुमोरेश्वरभिडे.		
१ माहादेवगोविंद रानडे.		१ गोपाळराव हरी देशमुख.
१ वामनराव परांजपे.	कन्यादान वगैरे करणारे	१ विष्णुपरशराम रानडे.
१ नारायणराव परांजपे.		१ जनार्दन सखाराम गाडगीळ.

Devanagari (Balbodhi) hand-writing (A.D. 1869)



Various forms of MSS. lettering in the Devanagari script

Courtesy : Central Museum, Nagpur

A page from Illustrated Manuscript of Bhagavata (Seventeenth Century A.D.)

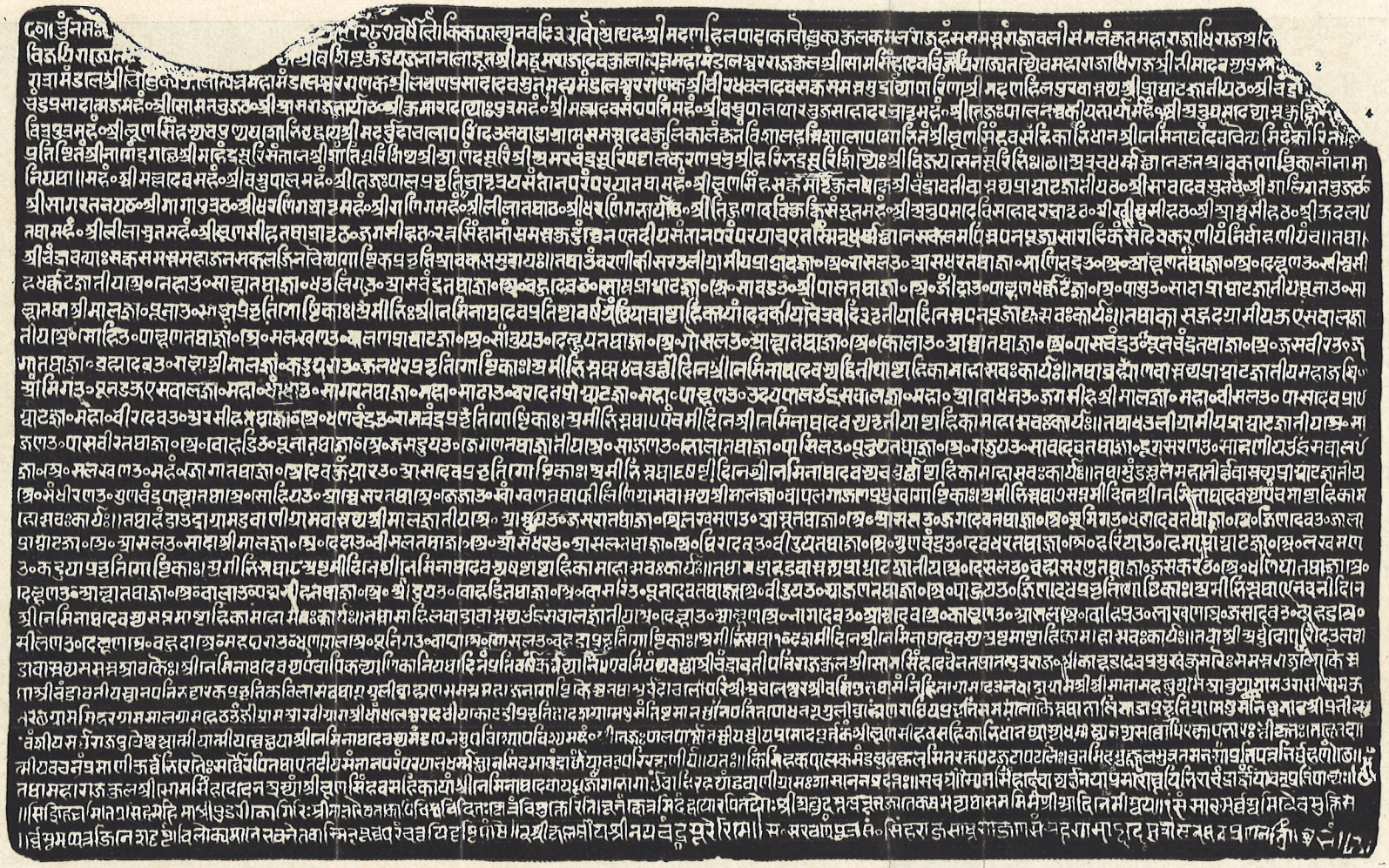
a ā i ī ī u ū o
e ka kka kkha kṣa kha ga gga
ggho gha ca cci ccha cha ja ju
jja jjha jñaḥ jha ṭa ṭṭa ṭṭha ṭha
ṭho ḍa ḍḍa ḍḍha ḍha ṇa ṇḍa ta
tu te ttu ttū ttha tha da dū
dda ddhaṁ dha na nta pa ppa ppha
pha pha bbhi bha ma me mhe ya
ra rū rṇṇ i la lla va śa ṣa
ṣṭaṁ sa ha ṇha lha ṁ ṁ ṁi

- S.N.Ghorpade

Courtesy : Central Museum, Nagpur.

Select Aksaras of the M.S. of Prakrit Kavalayamala (A.D. 1083)

PLATE 72



Courtesy : Epi, Ind., Vol. III

Mount Abu Inscription of the Regin of Bhimadeva II (A.D. 2130)

PLATE 73

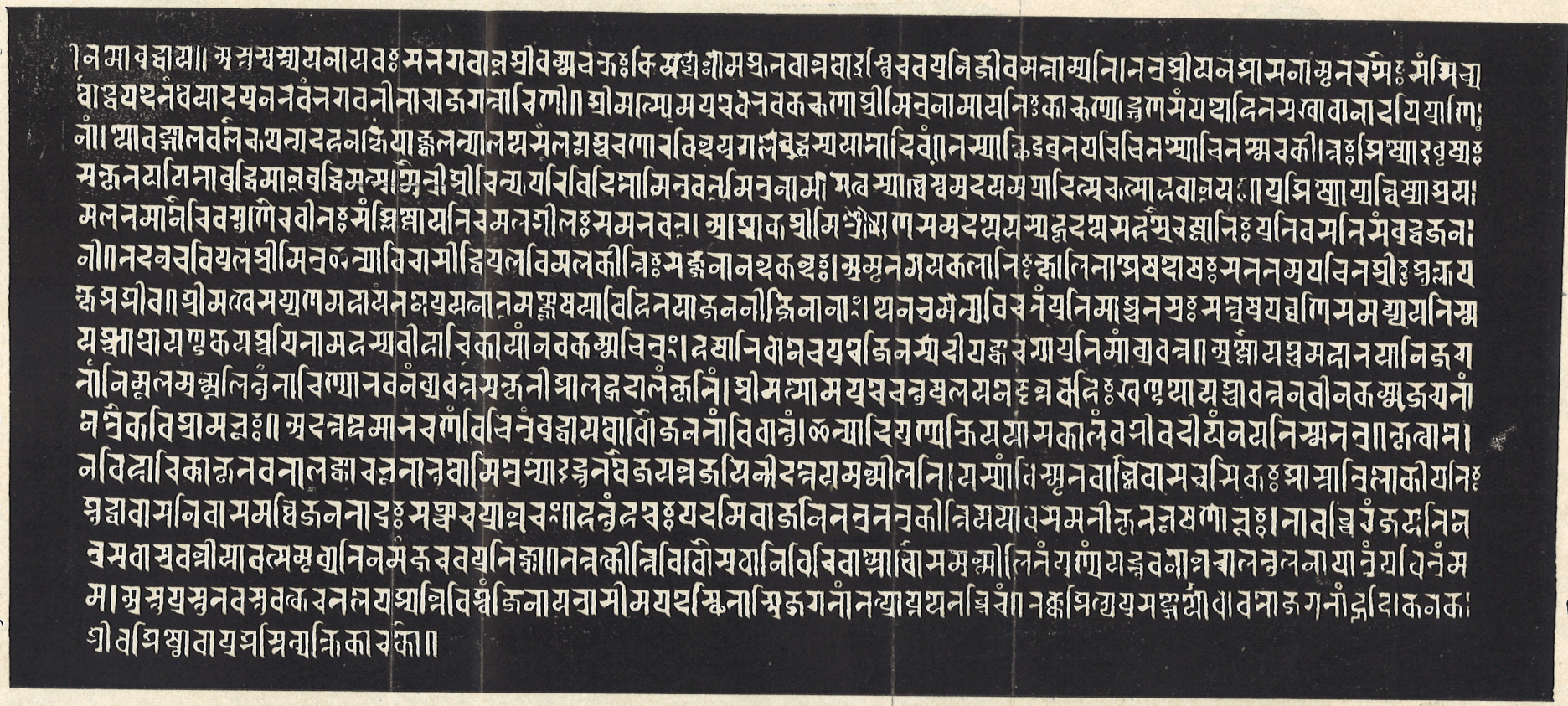
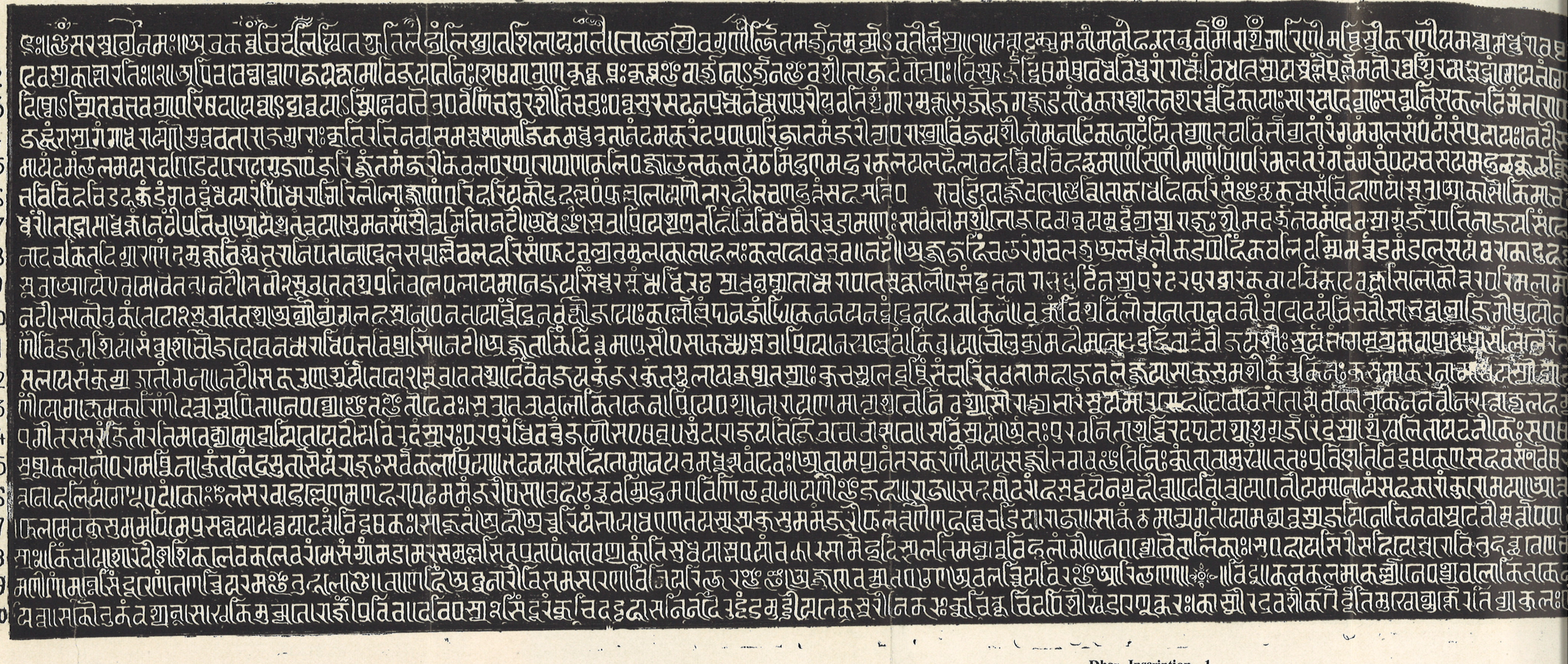
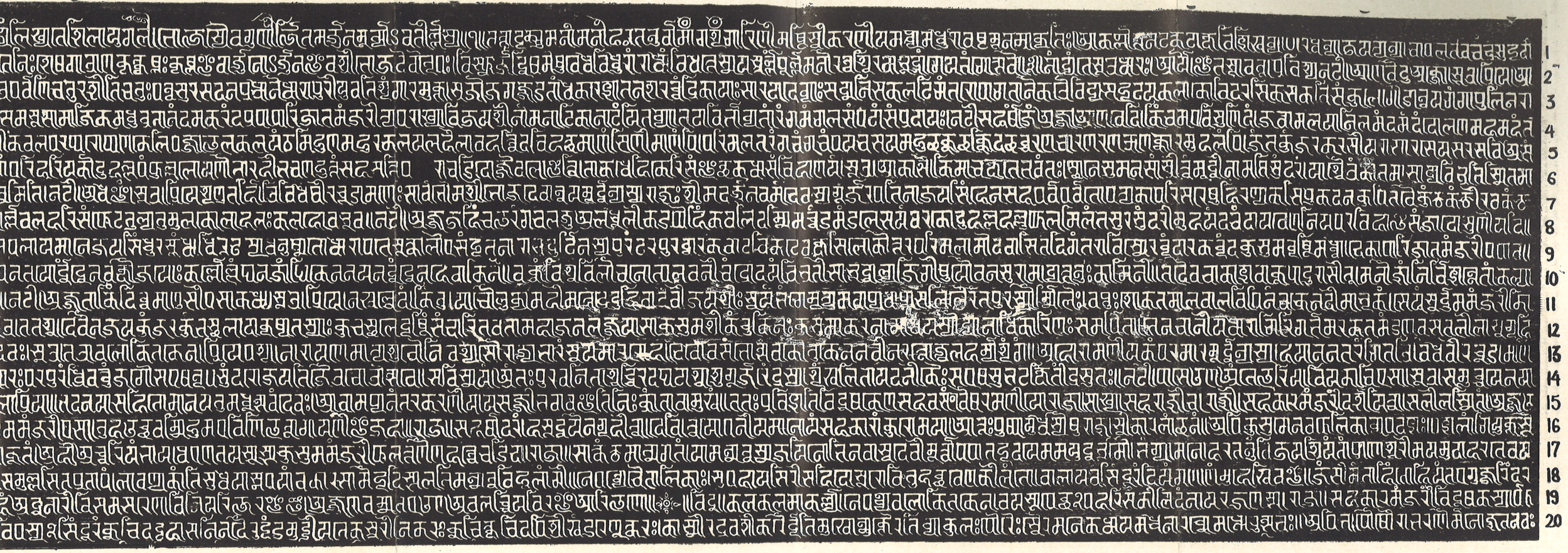


PLATE 74

Specimen of Devanagari serif letters



Dhar Inscription—1



Dhar Inscription—1

PLATE 75

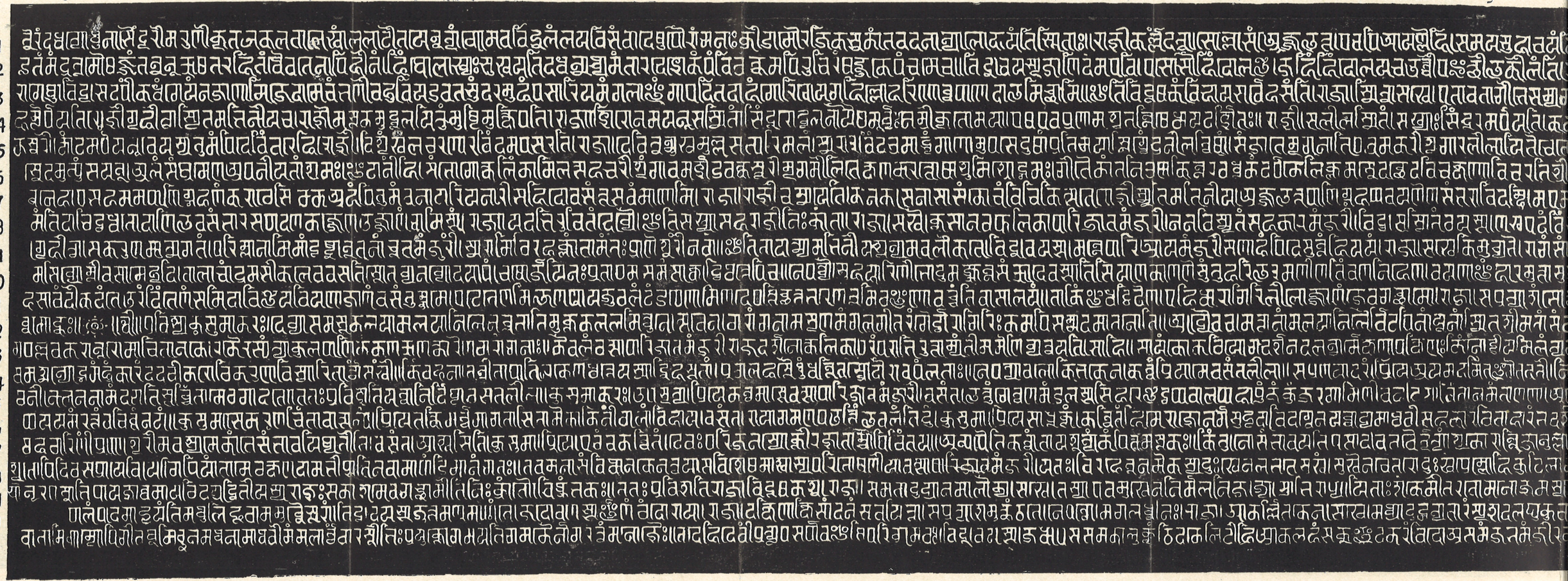
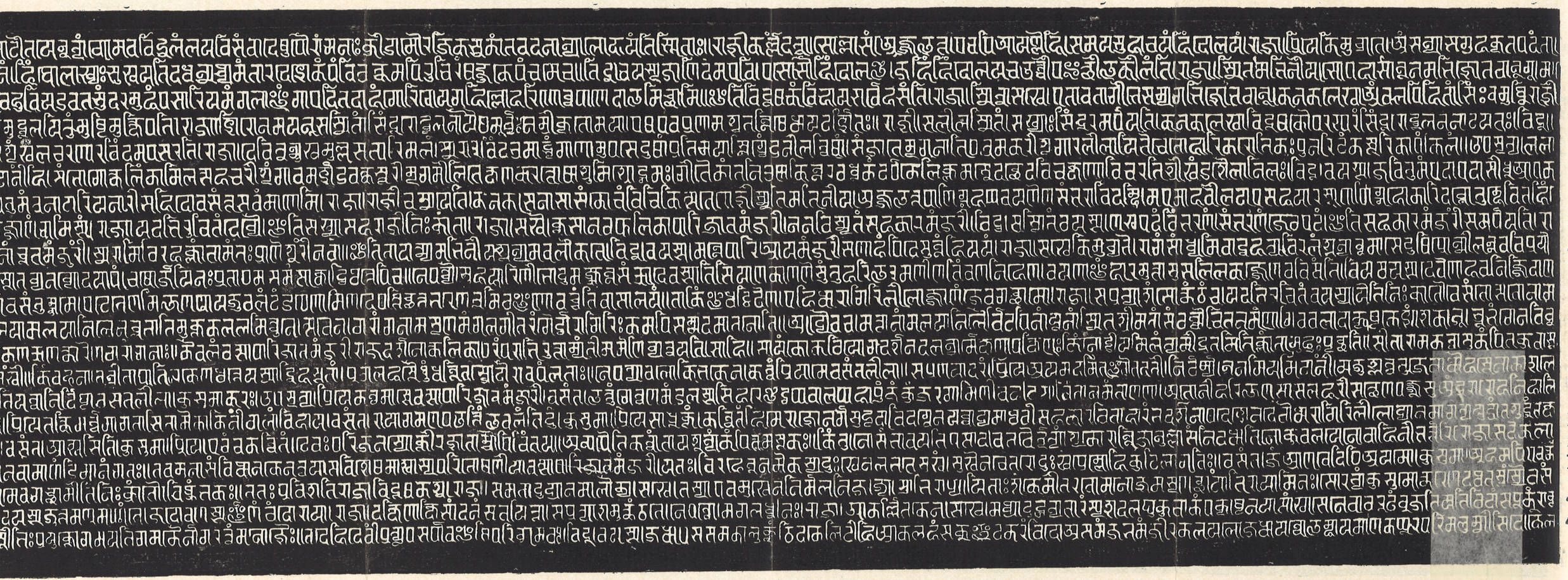
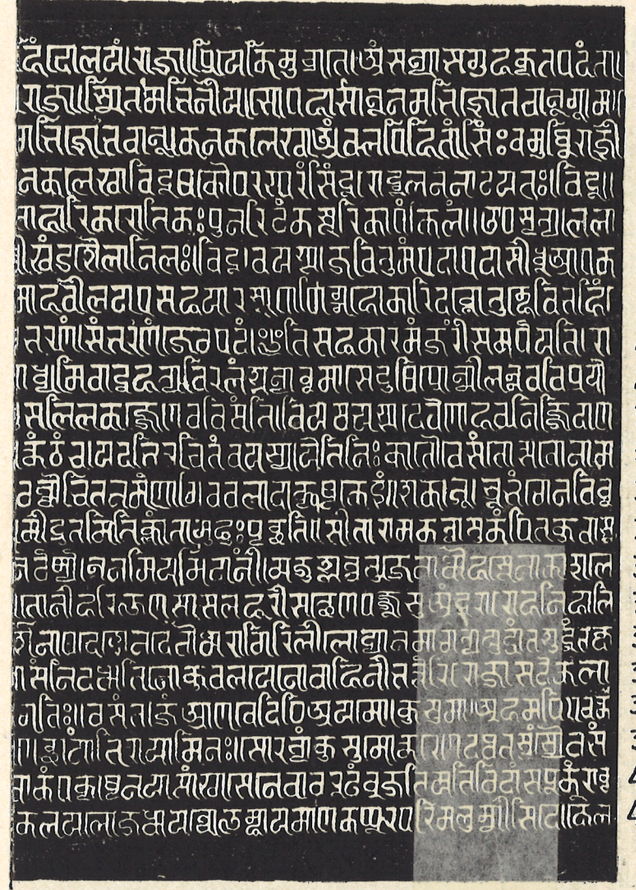


PLATE 76

Dhar Inscription—2



Dhar Inscription—2



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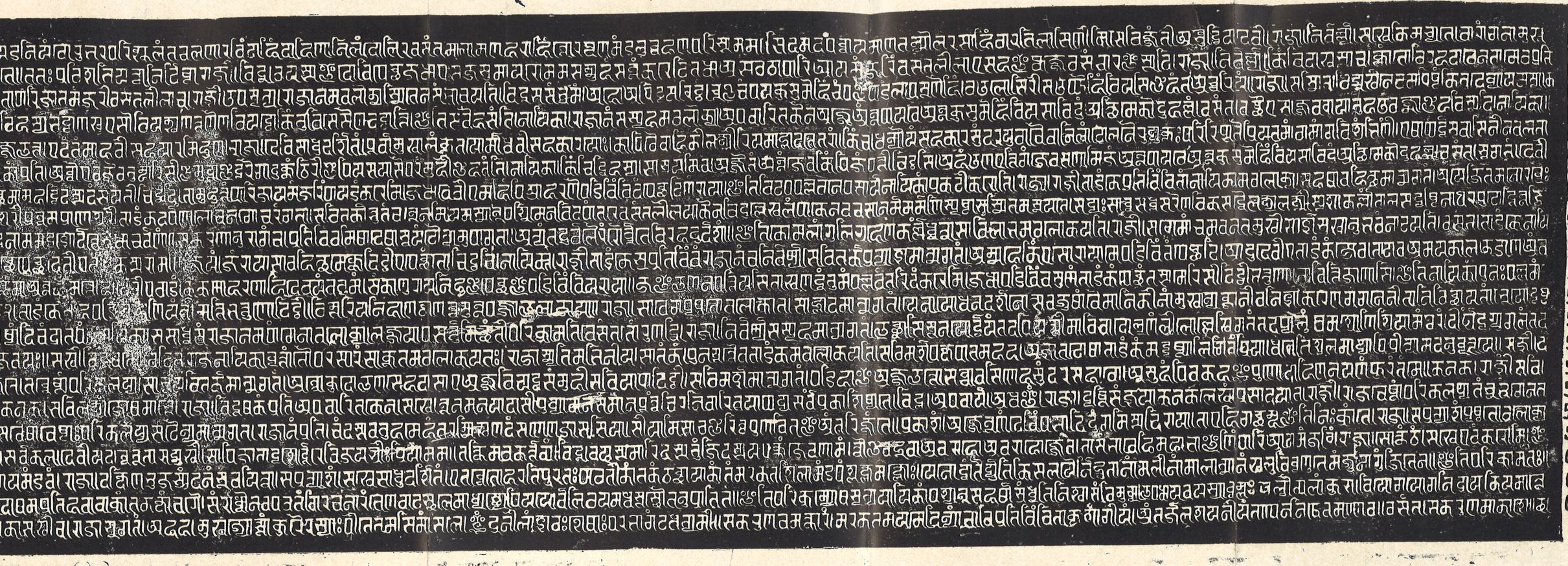


Dhar Inscription—3

PLATE 77

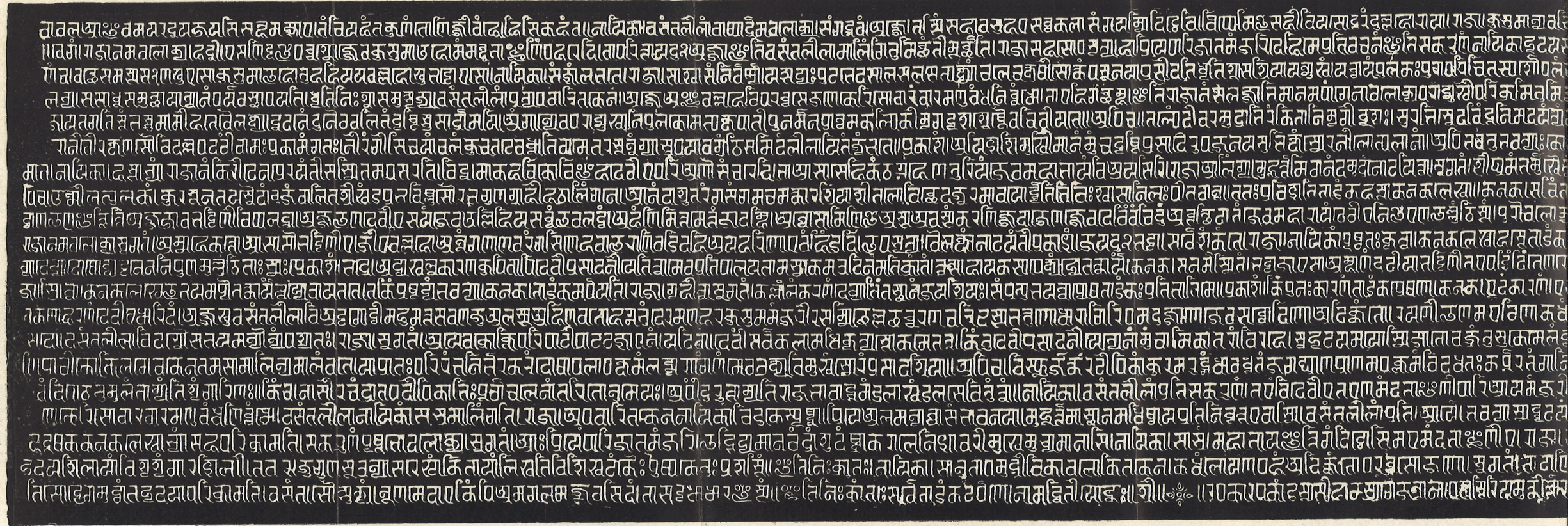
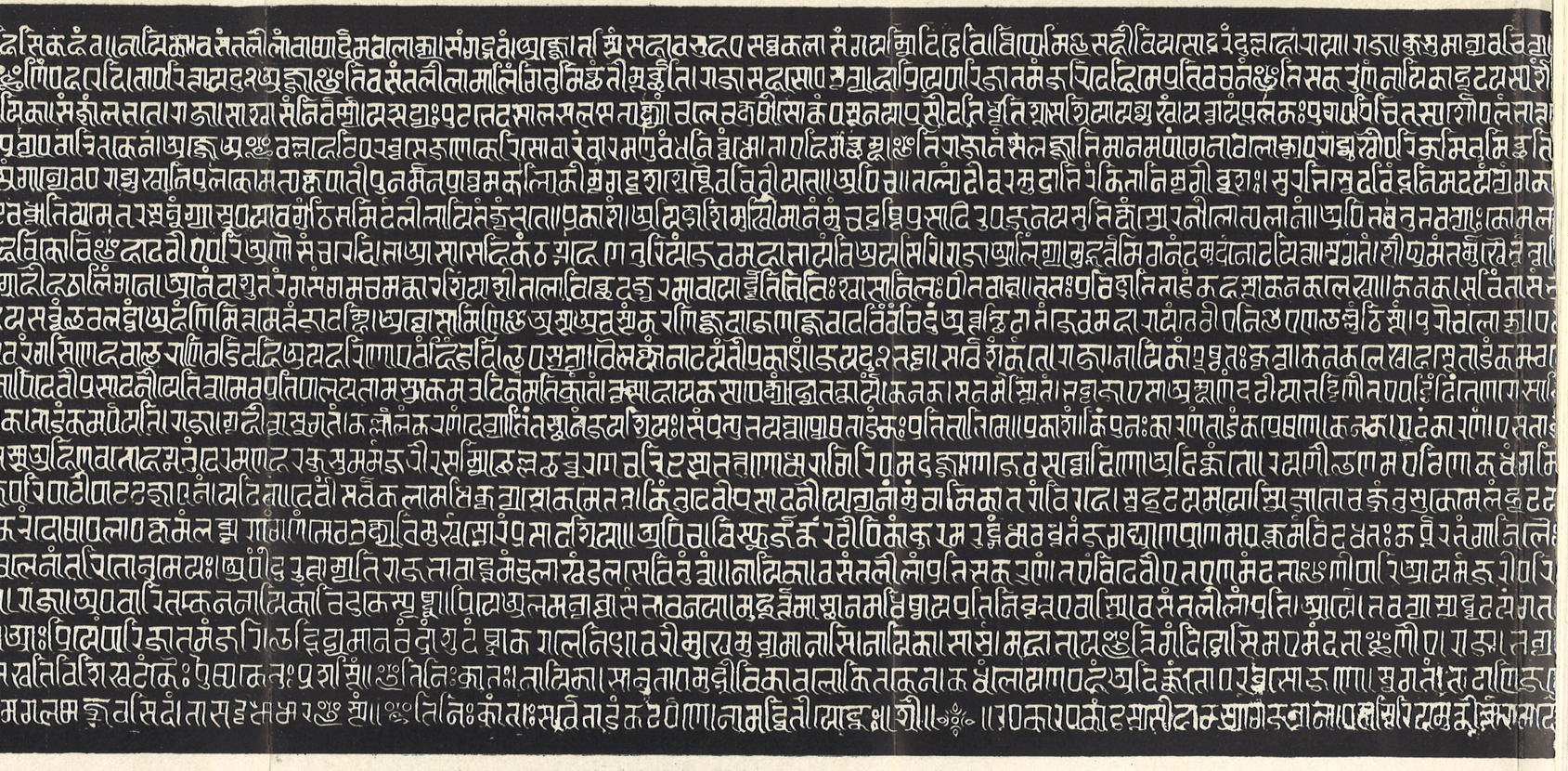


PLATE 78

Dhar Inscription—4



Dhar Inscription—4

CHAPTER VII

ANALYSIS AND CALLIGRAPHY OF DEVANAGARI

139. The Roman Script has been analysed in its graphic form into the elements such as ascender, descender, serifs, counter, loop, beak, etc. The standard elements in the design of the Roman letters are illustrated in Fig. 56 (on page 213.) The Devanagari script, unfortunately, had not[1] been subjected to such a graphic analysis until Dr. Bhagwat attempted[2] an anatomical description which is very interesting and enlightening. He classified the Devanagari letters in groups and illustrated the classification by giving examples from the Roman alphabet.

DR. BHAGWAT'S CLASSIFICATION OF DEVANAGARI LETTERS

140. Bhagwat's classification[3] is presented below by rearranging the groups according to size, complexity, elements, designs, etc.:

Table 45. **Three groups of Devanagari letters according to the size.**

Group	*Description*	*Devanagari*	*Roman*
1. Full-size letters (21)	Those which are spread over the whole length supposed to be normal for letters of an alphabet.	क छ ट थ प र व श ळ	*b d g* *h j k* *l p q*
2. Half-size letters (22)	Those which are about half of full-size.	None in Balbodh.	*a c e* *i m o*
3. Extra-size letters (23)	Those which over-spread the normal size of letters.	ऐ औ झ ज्ञ	None in English.

Note.—(1) The figures in parenthesis in col. 1 represent the serial numbers in Table XI in Dr. Bhagwat's book.

Note.—(2) The classification of full-size and half-size letters (1 and 2 above) will not be quite correct from the point of view of type design. All the Devanagari letters without *Mātrās* are on half body, which is equivalent to the x-height in the Roman alphabet, while the examples in Roman lower-case given here by Dr. Bhagwat are with either the ascenders or descenders. The place of ascenders in Roman is taken in Devanagari by the *mātrās, velāntis* and *rafārs* and that of descenders is taken by the *ukārs, rafārs* and the *halant* sign. It is true that the basic Devanagari letter occupies more space than the x-portion of Roman lower-case. The extra-size letters in Devanagari with regard to x-height are ह, इ, झ and द. This is due to the difficulty in accommodating vertically two curves and an ending stroke in addition to the short-bar.

Table 46. **Two groups according to simplicity or complexity.**

Group	*Description*	*Devanagari*	*Roman*
4. A simple letter (28)	One which usually consists of a single stroke and can be written without stoppage of motion.	उ र	*a c e m n o r s u*
5. A compound letter (29)	One which consists of more than one stroke involving loss of motion between two strokes.	ओ ख झ क्ष	None in English.

Table 47. **Seven groups according to motion, stroke and angles.**

Group	*Description*	*Devanagari*	*Roman*
6. Right motion (14)	That which takes the pen from left to right.	र	All English letters.
7. Left motion (15)	That which takes the pen from right to left.	अ ऊ ड	None in English.
8. A front stroke (16)	That which has the inclination towards the right of the writer.	र	All English letters.
9. A back stroke (17)	That which has its inclination towards the left of the writer.	ऐ औ	None in English.
10. A right angle (18)	Same as in Geometry ..	Every Balbodh letter has a right angle near the headline.	None in English.
11. An acute angle (19)	Same as in Geometry ..	None in Balbodh.	*q* in English.
12. An obtuse angle (20)	Same as in Geometry. Very inconvenient in writing.	ए ऐ	None in English.

Table 48. **Six groups according to endings, flourishes, fenced, etc.**

Group	*Description*	*Devanagari*	*Roman*
13. Front-ending letters (24)	Those which have their endings in the direction of writing.	र	All English letters.
14. Back-ending letters (25)	Those which have their loose ends in the opposite direction of writing.	ऊ ज ड थ ल ळ	None in English.
15. Fenced letters (26)	Those whose movement in the direction of writing is literally barred by straight strokes.	ग च ण त ध न प भ स	None in English.

Table 48—contd.

16. Turned feet letters (30)	Those which have their vertical bars turned in the direction of writing by means of slurring hooks which come in automatically as a result of motion (Gujarati letters have such turned-feet which have contributed some flexibility and speed to Gujarati writing).	None in Balbodh.	All letters in English are turned feet when standing alone. When joined to other letters these turns become after-links (*see* 18 below).
17. A fore-link (31)	A flourish of pen which in a running script connects the following letter to the preceding one.	None in Balbodh.	In the running script every English letter has a fore-link.
18. An after-link (32)	A flourish of pen which in a running script connects the preceding letter with the following one.	None in Balbodh.	In the running script every English letter has an after-link. Very often this makes a free blend with the fore-link of the following letter.

Table 49. **Groups according to the parts of the letter design.**

Group	*Description*	*Devanagari*	*Roman*
19. Head-line (1)	Line from which the letter starts in Balbodh.	Every letter in Balbodh.	None in English.
20. A straight stroke (2)	A straight line drawn at one stroke of pen in any direction.	(*i*) Central bars as in क फ	Do.
		(*ii*) Side bars as in घ च थ	Do.
		(*iii*) *Kana* or detached bars as in आ ग ण	Do.
		(*iv*) Connectives as in अ स	Do.
		(*v*) Diacritics as in औ प्र	Do

Table 49—contd.

21. A curve (3) ..	A single roundish movement of pen on paper which is part of a "round" drawn by hand—not to be confused with geometrical curve which is necessarily part of an exact circle.	Many Baibodh letters have curves along with straight strokes and connectives.	Every English letter has a curve unaccompanied by any straight strokes or connectives.
22. A fly-loop (4)	An oblong slender loop which is both the result as well as the cause of motion in writing.	None in Balbodh.	Every full-size English letter has a fly-loop which may or may not be visible in what are called "ascenders" and "descenders".
23. A circle (5) ..	Flexible "rounds" drawn by hand on paper; not necessarily geometrical in shape.	(*i*) Small circle : ग छ ढ ध न क्ष	*r s v w*
		(*ii*) Big circle : क ख ठ ळ	*a d g o*
24. A fly-wheel (6)	A small medial circle which is both the result and *cause of quick motion* in writing. This sometimes looks as a merged dot [*see* 30(*b*)].	अ इ ख द श स र क्ष ज्ञ	*r s v w*
25. A letter-peg (7)	A small vertical dash (or short bar) hanging from the head-line and supporting the main body of a letter.	इ ङ छ ट द ल श ह ळ	None in English.
26. A break (8) ..	Sudden stopping of writing motion involving lifting of pen from paper. (It is therefore an unseen stroke.)	Every Balbodh letter has necessarily a break at the head-line.	None in English.
27. A flexible (9) ..	A straight stroke which becomes slightly curvish as a result of motion, taking away all the stiffness of straight lines as we find them in geometry.	None in Balbodh.	All English ascenders and descenders are flexibles.

Table 49—contd.

28. A stroke (10)	Simple visible motion of pen on paper (straight or curvilinear) involving no angle or a change of direction.	Every letter consists of more than one stroke in Balbodh.	Some English letters consist of single stroke, e.g. *a c e i n o w v*
29. A loop (11) ..	A small graphic loop which requires no extra effort.	None in Balbodh.	The English letter *e*
30. (*a*) A merged dot ; or (*b*) A merged circle (12)	A graphic point attached to the beginning or end of a letter. The motion of a letter either starts or stops with it. Often it is individual writing mannerism.	ग छ ढ थ ध न भ र क्ष	*c* in English
31. A running dot (13)	A medial dot which acts as a fly-wheel.	द स श	*r s*
32. A writing dagger (27)	A straight stroke thrust through the body of letters without overspreading their normal size.	ब ष	None in English
33. A dot (33) ..	Same as in geometry. Easiest to write—(300 per minute).	अं अः ङ	*i j*

Mechanism of Writing Devanagari

141. The above classification of Dr. Bhagwat is necessarily based on the mechanism of writing. He is here concerned with the scrutiny of the graphemes from the point of view of fluency. Naturally he regards the alphabetic letters as "wheels on the scriptal track constantly moving language goods over them". And states that "it is the structure of these alphabetic wheels (made of curves, loops, hooks, circles, straight lines forming multifaced angles dashes and dots) which makes for or mars the fluency of a script". Dr. Bhagwat in his scrutiny has reduced the writing effort in units equivalent to a stroke. According to this study the letter औ is the biggest graphic sign requiring fourteen writing units while ज्ञ requires ten units, श, क्ष and ख 8 units, फ ब ष and ह seven units. It is interesting to note that the letters with short-bar : ट ठ ढ and that without verti-bar र, require only four units. The *kānā, ukārs* and *mātrās*, require only two units. *Velānti-kaṇā* and *mātrā-kānā* require four units, while the double *mātrā-kānā* requires six units. Average writing effort in Devanagari letters is six units as against only 2·4 units for Roman lower case letters.[4]

Characteristics of Balbodh

142. Dr Bhagwat has taken great pains in setting out the characteristics of Devanagari.[5] I am reproducing them here as their close study will facilitate proper understanding of the problems of Devanagari.

(*a*) *Angular forms*

(1) Every letter has at least one straight stroke.

(2) Every letter has at least one right angle near the headline.

(3) Every letter has at least one break.

(4) Every letter, excepting ए and ऐ, has at least a circle, a curve, a loop.

In the case of ए and ऐ the prescribed obtuse angle is often turned into a corner-curve simply by the momentum of writing. This is a tendency to end these two letters either with small circles or merged dots, both of which, coming as they do at the end of strokes, have to be controlled before a break. This results in retardation of movement and speed.

(*b*) *Cumbersome and awkward forms*

(5) Every letter is either pegged or fenced.

In many cases it is both, e.g. झ, श. Pegging and fencing of letters means more liftings of pen, increasing the size of letters and making them awkward for writing because they involve angles.

(6) Many letters have back-facing.

In a writing system going from left to right, all letters should face to the right. If they do not, they are regressive. Such letters necessarily involve one or more breaks and there is no possibility of their ever being joined to the following letters in a running script, e.g. अ, ग, च, त, न, प, etc. As a contrast, ट, ठ, र, etc. have a more logical and convenient form, because they face the proper direction of writing and offer some possibility of joining with other letters.

(7) Some letters have back-endings.

In a left to right system, this causes the pen to take a reverse turn and then travel over a longer distance in air to reach for the succeeding letter. For the same reason, they are awkward for joining ; but their case is not as bad as in " back-facing " which forever closes the possibility of joining the following letters, e.g. क फ ल ळ.

(8) Some letters have back slopes.

Like " back-facing " and " back-ending ", they disregard the logic of writing resulting in numerous breaks and loss of momentum, e.g. ऐ, औ, etc.

(9) Some diacritics are awkwardly placed.

(i) The dot in ङ prevents its joining with following letter.

(ii) The daggers in ब and ष are back-strokes; they expect some control in writing; after finishing the main letter, pen has to turn back and thrust itself within two angular limits. This has adverse effect on movement of letters and script generally.

(*c*) *Inert and static nature*

(10) Excepting उ and र, Balbodh letters are static, contributing nothing to speed.

Letters like अ घ if written with medial circles and loops, come out very naturally as a result of motion ; this tendency is clearly seen among children when they start their script-learning. However, these medial circles and loops which come very naturally are not traditionally prescribed in Balbodh letters. Fly-wheels seen in इ द श seem to run, but their effect is neutralized, because the stroke immediately following thereafter comes to a sudden stop.

(11) All initial and final circles are static.

Unlike fly-wheels which increase the speed of writing by increasing its momentum, the initial and final circles need control in writing. Circles, if they do not contribute to the movement of writing, have no positive value.

A very effective use of small and big circles from this point of view is made by the best known shorthand systems like Pitman, Gregg and Sloan-Duployan in English. They clearly seem to get their inspiration from the running Roman script used by English.

(12) There are no fly-loops.

Fly-loops are the most efficient part of the writing mechanism. English letters freely use this device. All English ascenders and descenders are in effect fly-loops. Balbodh has denied to itself their fluent facility.

(13) Fore-links and after-links have, by their very nature, been ruled out in Balbodh.

It is these fore-links and after-links which put the isolated letters in action and make them literally run in a script. Balbodh was and is semi-syllabic in nature. It is only the fully phonemic scripts which have scriptal mobility. *Balbodh cannot have this mobility until it gives up its semi-syllabic nature.*

(*d*) *Ponderous size and illogical sequence*

(14) Half-size letters are unknown to Balbodh.

Letters like ग or ण would have proved half-size. But the omnipresence of side-bars prevents this.

(15) Excepting उ and र, all other Balbodh letters are compound in formation.

Addition of an extra stroke or a diacritic turns simple letters into compound ones. This naturally increases the size of letters.

(16) Excepting the ' · ' dot, the size of Balbodh diacritics is very big for purposes of brisk writing.

(17) Some letters overspread themselves in length, e.g. ई है क्ष

(18) Some letters overspread themselves in width, e.g. आ झ ज्ञ

(19) Some letters are equivocal in direction, e.g. ज त ळ ल

The logic of writing demands that in a left-to-right system all letters should start and end with ' right ' or the anti-clockwise motion. But, the shape of some Balbodh letters is so dubious that it induces ' left ' or ' clock-wise ' motion at the start or end of letters. The structure of letters should not permit of any such equivocation. It causes some loss of time and effort.

(20) In the delineation of characters, Balbodh involves clock-wise and anti-clockwise motions in single letter-formations, e.g. ख, ल, ह. This is like attempting to rotate one hand in a forward and the other in a backward direction simultaneously. Such illogical sequence exerts unconscious mental strain while writing, resulting in retardation of speed and fluency.

(21) Sometimes the diacritics break the natural phonemic sequence in writing,

(e.g., a consonant followed by इ /i/ is written as इ + consonant, reversing the natural order. This is a complete breach of writing logic. Some of the difficulties of Balbodh learning are due to this illogical phonemic nature. Children and new learners take a very long time to be convinced that f (इ) + त is intended to be read त + f (इ).

Devanagari Calligraphy

143. Traditionally, Devanagari is written with a reed or bamboo pen. The bamboo pen is cut broad and resembles a quill pen but differs a little, in that the point is cut to slant in the opposite direction. The angle of the pen-point to the horizontal guide line, is kept at 45° and it is not changed while writing the horizontal, vertical, curved or rounded strokes. The distinguishing part of the Devanagari letters is usually on the left side followed by the verti-bar.

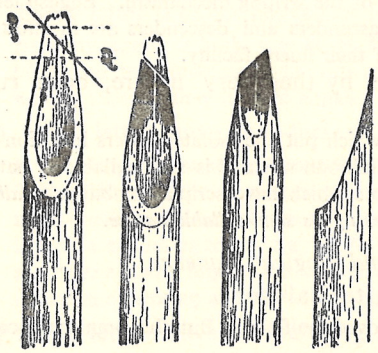


Fig. 55. **Bamboo pen used in writing Devanagari.**

144. The phono-graphic classification of the Devanagari Alphabet in the universally agreed sequence is given in Chapter VI. This sequence is not however followed in teaching the students to write. Another sequence based on the graphic similarities is followed instead, which is given below :

Table 50. **Sequence based on graphic similarities**

Letters	*Common element*	*Letters*	*Common element*	*Letters*	*Common element*
ग म भ न	ग and/or ग	ष ष फ ण	ण	अ आ ओ औ अं अः	अ
र स (ग ख)	र (ग)	ट ठ ढ द (क्ष)	ट	ए ए	ए
त ल लृ	त	ङ ड इ ई झ ह	ड	ऋ ॠ	ऋ
व ब क ख	व	य थ	य	उ ऊ	उ
च (ज) घ ध छ	व or ध	श ळ ज्ञ ञ	—		

145. The Roman letters are analysed in their graphic forms, i.e x-portion, ascenders, descenders and the limiting factors are defined as cap-line, base-line, ascender-line, descender-line, etc. as shown in Fig. 56.

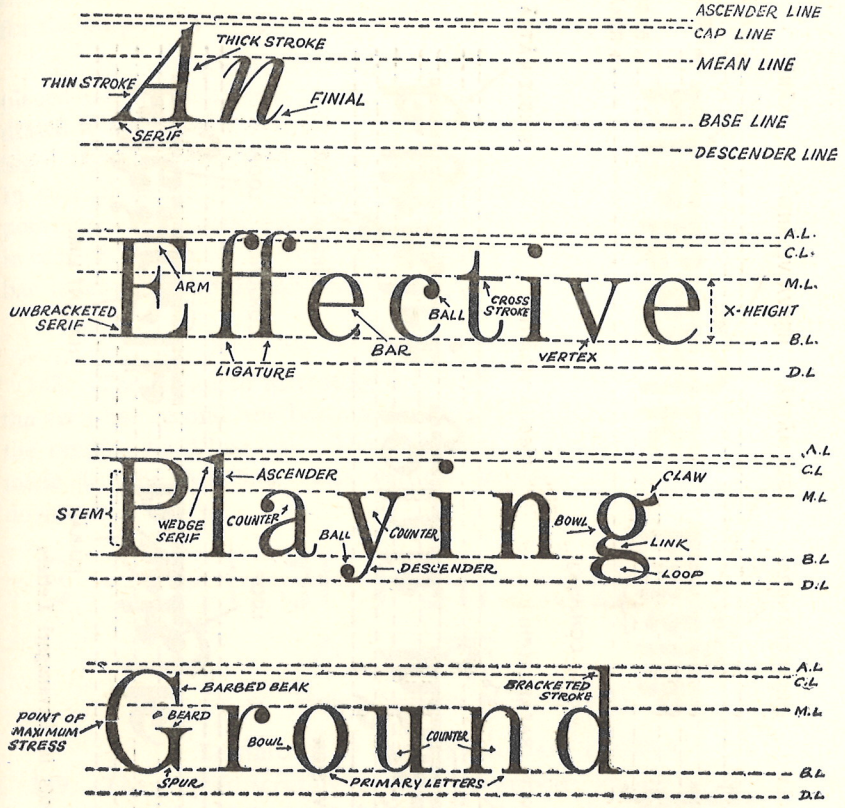


Fig. 56. **Nomenclature of the parts of the Roman letter design.**

Analysis of Devanagari Letter Design

146. The Devanagari letters will have to be analysed on similar basis and an attempt is made to do so in Fig. 57. The equivalent of x-portion in Devanagari letter is the portion occupied by the length of the *kānā*. However the distinctive parts of some letters like 'न, च' do not cover the entire x-portion. Some of the letters like इ, झ, ह spread below the ex-portion into the region of descenders. The Devanagari letters are aligned at the head-line and not at the base-line. Although the head-line can be considered identical with the mean-line in Roman, a separate mean-line is required to be reckoned in the Devanagari. The present

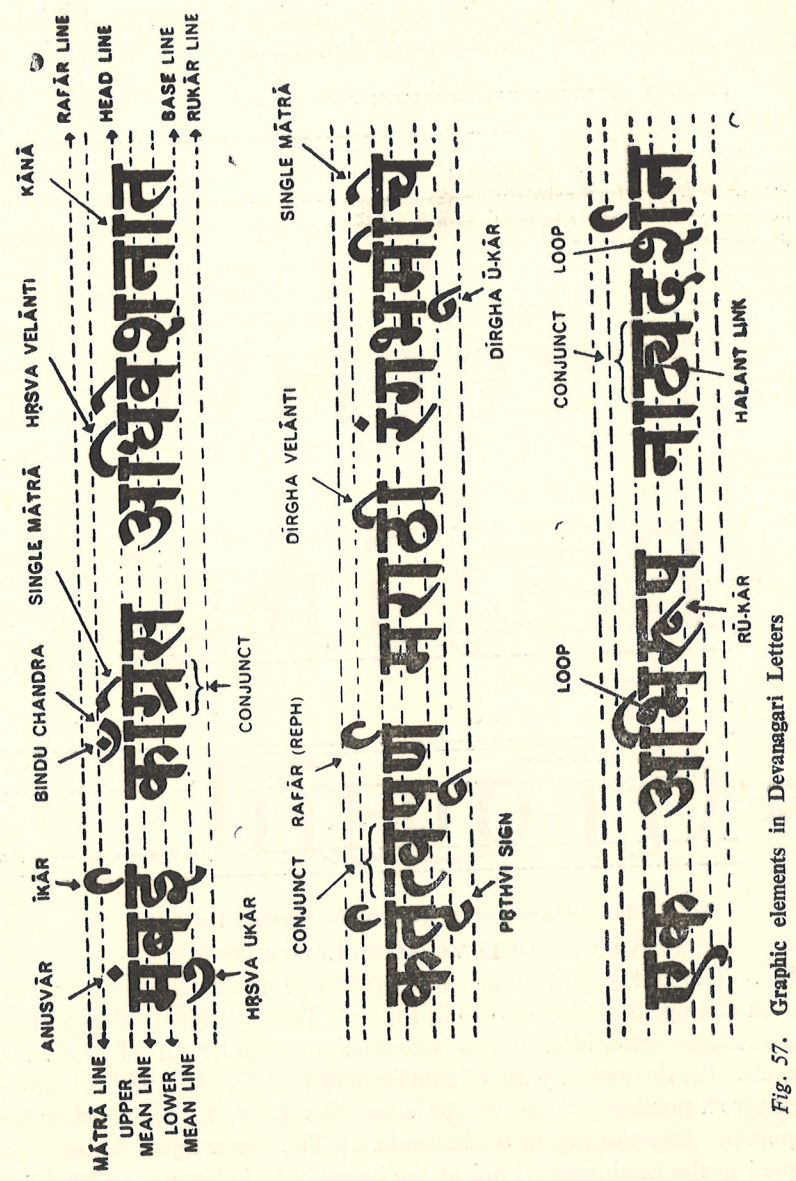


Fig. 57. Graphic elements in Devanagari Letters

design of the Devanagari letters have two mean-lines, as indicated in Fig. 57. A Devanagari sentence specially constructed to cover most of the elements usually used, is reproduced in the figure on the next page for the purpose of suggesting nomenclature.

147. In writing the Devanagari *Akṣaras* the vowel sign *mātrā* is placed on the last vertical element, i.e. के, को, ते, टे etc. The *velānti* is drawn to touch the first and the last vertical elements, i.e. की, टी, ति, etc. Similarly the *ukār* and *Ṛkār* are placed below the verti-bar, i.e. कु तु तॄ. In case of letters with short-bar the *ukār*, *Ṛkār* are placed at the mid-point below the lowest curve टु, डू, हु. The *ukār* is placed in the same line in case of र i.e. रु. रू, र with *Ṛkār* is written as र्ऋ. In case of the small-bar letter ह the *Ṛkār* modifies its form, i.e. ह्ऋ.

Writing Sequence of Devanagari

148. The sequence in writing is follows : the characteristic part first, the verti-bar second, the bottom elements third, top elements fourth and the binding head-line last. The alignment of the Devanagari letters is made to the headline. The vertical strokes are drawn from top downwards.

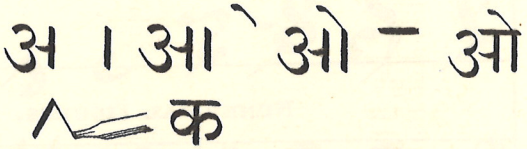


Fig. 58. **Writing Sequence of Devanagari.**

Legibility of the Devanagari Letters

149. The graphic scrutiny of the Devanagari letters will bring out important aspects of the letter design. In Roman the x-portion has only one middle element in letters like a bar in 'e' or a cross in 'x', while in Devanagarit here are more than one middle elements in certain letters, i.e. छ झ ड ह क्ष ज्ञ. These letters limit the possibilities of reduction in the type sizes without sacrificing the legibility. Type sizes in Devanagari are prescribed for use in the school books, on the same lines as in Roman. The fact that the letter forms in Devanagari possess peculiarities like those referred to above does not appear to have been taken into consideration. Extensive research is therefore required to be made in this regard, particularly when mass production of text-books is being undertaken and this is the opportune time to go into the legibility of Devanagari letters.

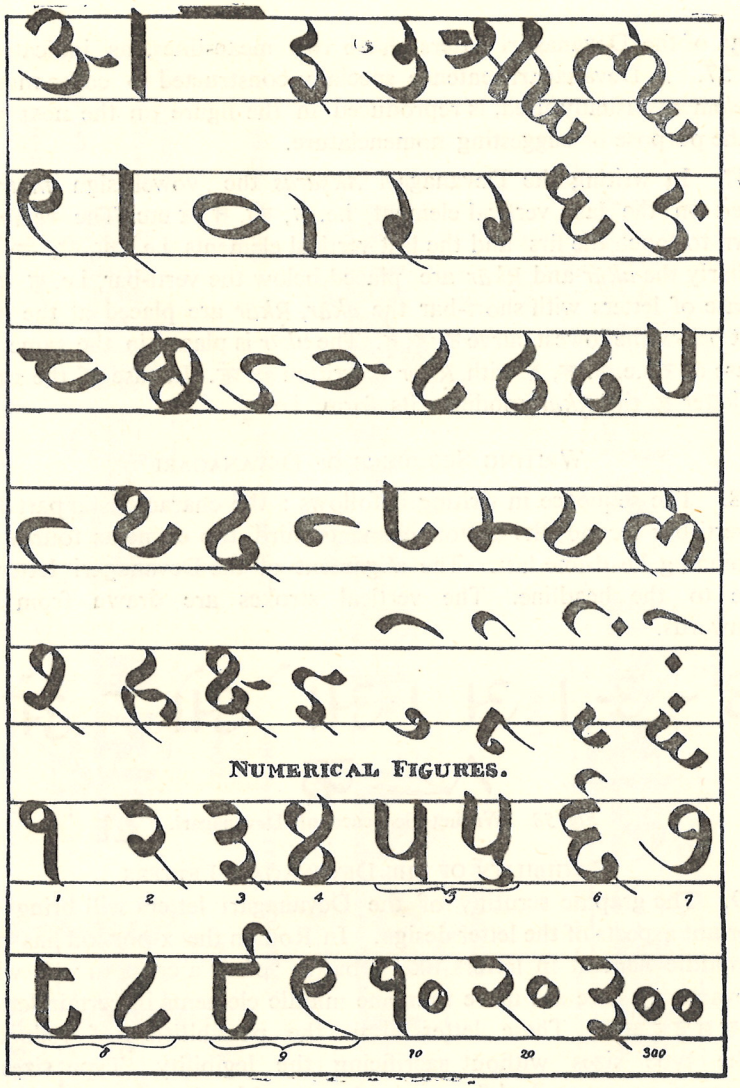


Fig. 59 **Sir Charles Wilkins' Graphic analysis of Devanagari.**

150. Sir Charles Willsons was the pioneer in cutting Devanagari types in India, an account of which is given in subsquent chapters. Sir Charles followed the Northern Indian Calligraphic style of Devanagari. He analysed the script in elements in his Sanskrit Grammar published in London in 1808. The elements are reproduced in Fig. 59 (Page 216). It may be noted that there is no short-bar in ट, ठ, etc. The design of ह differs from इ. Bely of द is large. Upper portion of र exactly resembles ग. The vowel ए looks like figure ९. The letter ल is in Bombay Style the letters य and थ have no beaks. All these peculiarities are seen as distinctive feature of Wilkins Devanagari fount.

Annexure F

EARLY COPPER-PLATE ENGRAVINGS OF DEVANAGARI AND BENGALI

(Chapter VII—Figures 60 to 64)

अ आ इ ई उ ऊ ऋ ॠ

ऌ ॡ ए ऐ ओ औ अं अः

क ख ग घ ङ च छ ज झ ञ

ठ ठ ड ट ण त थ द ध न

प फ ब भ म य र ल व श

ष स ह क्ष ज्ञ

क का कि की कु कू कृ कॄ

कॢ कॣ के कै को कौ कं कः

Fig. 60. **Sanskrit Alphabet reproduced in the *Asiatic Researches*.***

SHANSCRIT ALPHABET VOWELS Plate I. *Translater's preface page XXIV*

अ a इ i ई ee उ u ऊ oo ऋ rue ॠ rue

ऌ lŭ ॡ lree ए a ऐ i ओ o औ ou अं ung or um अः eh

*ung tho it be not a Vowel, is always ranked in this Series

CONSONANTS.

क kŭ ख khŭ ग jŭ घ ghŭ ङ ngŭ च chŭ छ chhŭ ज jŭ झ jhŭ ञ nyŭ

ट tŭ ठ thŭ ड dŭ ढ dhŭ ण nŭ त tŭ थ thŭ द dŭ ध dhŭ न nŭ

प pŭ फ phŭ ब bŭ भ bhŭ म mŭ य yŭ र rŭ ल lŭ व vŭ

श shŭ ष shŭ स sŭ ह hŭ क्ष khyŭ

CONNECTED VOWELS.

क kŭ का kā कि kee की kee कु koo कू koo

कॅ kae कै ki को ko कौ kou कं kung कः kuh

The above mark ◌ ं at the top of some of the letters is always understood in every single consonant, & pronounced with it to give it utterance but when two or more Letters are joined by the conjunction of the Consonants the first of them loses this short sound. Translator

Fig. 61. **Devanagari Alphabet reproduced from a gravure print.**

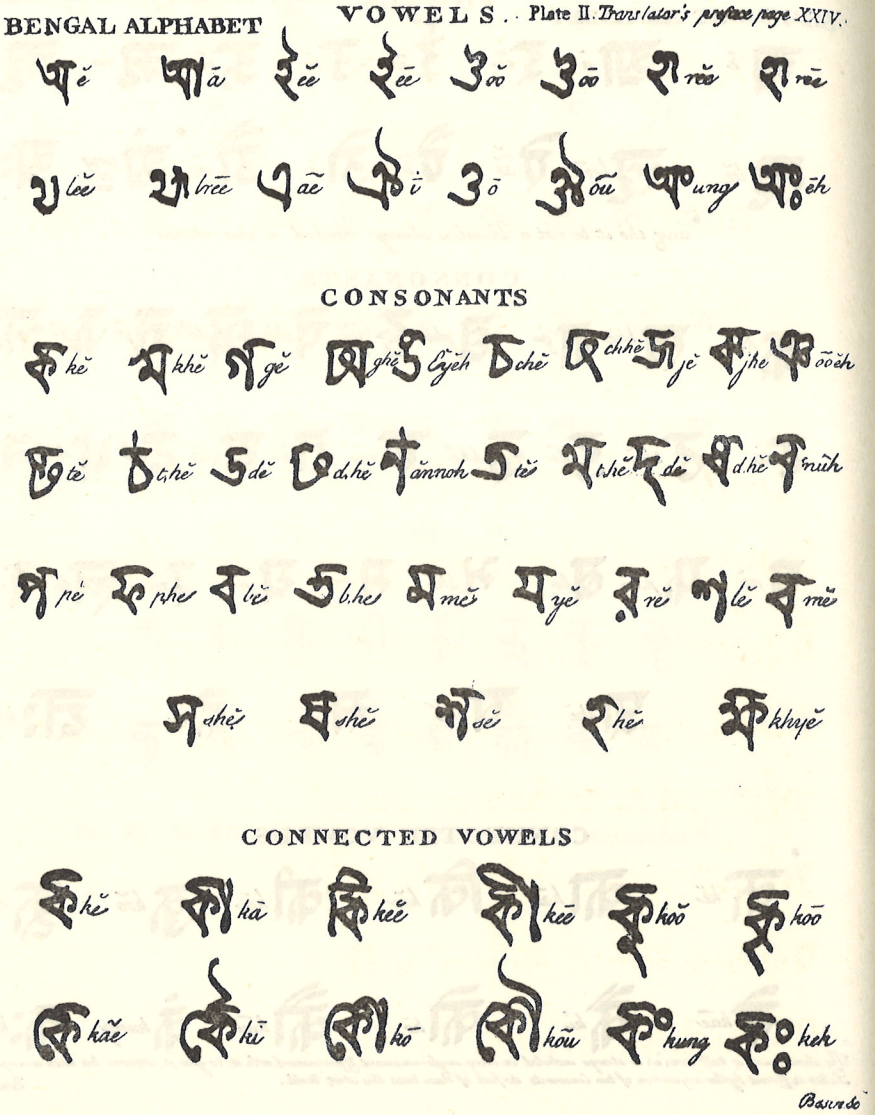


Fig. 62. **Bengali Alphabet reproduced from a gravure print.**

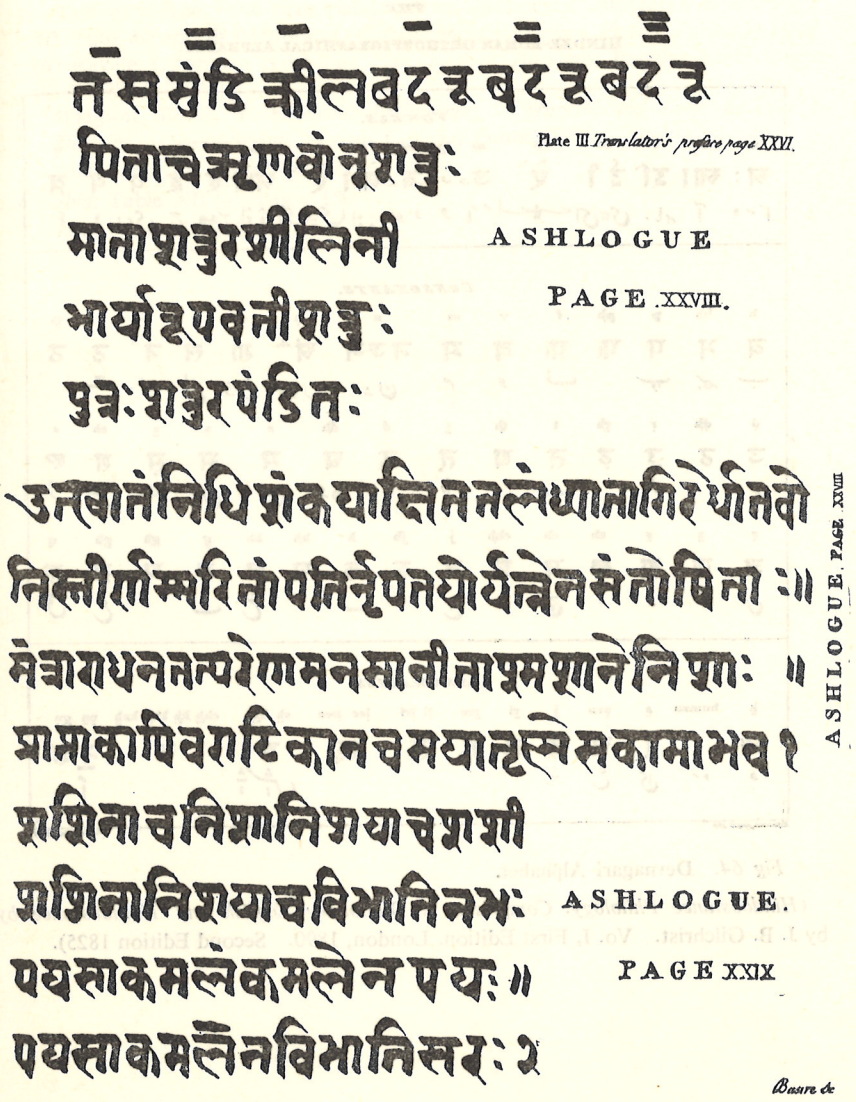


Fig. 63. **Extract from a Devanagari MSS.**

Fig 64. **Devnagari Alphabet.**

(*Hindoostanee Philology. Comprising a Dictionary English and Hindoustanee by* by J. B. Gilchrist. Vo. I, First Edition, London, 1890. Second Edition 1825).

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1. Two pamphlets have been published on Devanagari Calligraphy in Marathi :
   (*i*) Apte, Jagadeesh Pandurang, *Chitra-roop Devanagari*, Poona, February 1960.
   (*ii*) Ravale, Lakshman Sakharam, *Hastakshar Darshan*, Popular Book Depot, Bombay, 1964.
2. Bhagwat, Dr. S. V. *Phonemic Frequencies in Marathi and their Relation to Devising a Speed-Script*, Deccan College, Poona, 1961.
3. *Ibid*, Table XI, pages 143-147.
4. *Ibid*, Table XII (*a*), pages 150–152.
5. *Ibid*, pages 153–156.

Chapter VIII

EARLY PRINTING IN INDIAN SCRIPTS

151. The earliest printing centre in India was established in Goa. Subsequent additions to the printing centres were Cochin, Quilon, Calicut, Pudikail near Cape Camorin, Vaipicotta and Ambalacata, all on the west-coast. Printing later spread to the east-coast at Tranquebar, Madras, Fort William, Calcutta and Serampore. Roman Catholic mission is mostly responsible for the introduction of printing on the west-coast, while the credit goes to the Protestants who established printing presses on the east-coast at Tranquebar in the south and Serampore in the north.

The First Printing Press in India

152. The first printing press came to India by accident. In early days ships from Europe sailed round the Cape of Good Hope and came to India's west-coast and thence they used to go to Abyssinia. A press intended for installation in Abyssinia, which was shipped (March 29,1556) from Belem, Portugal, arrived in Goa on September 6, 1556. A Spaniard Br. Juan de Bustamante (1536-88) came with the press and remained in India.[1] He was assisted by an Indian printer trained in the art of printing in Portugal at the expense of the King of Portugal. A pamphlet *Conclusoes* [1]* by Antonio de-Quadros was printed in Goa in 1556 in Portuguese language, which appears to be first printing done on Indian soil. St. Francis Xavier's *Doutrina Christa* [2] was printed in Portuguese in 1557. No copy of this first book printed in India, is available. A copy of its reprint reproduced in 1577 is preserved in Bibliotheque Nationale. A photo copy of the title page is reproduced in *The Memories of the Madras Library Association.*[2] *Compendio Spiritual de Vida Christāā* [3] was printed in 1561[3] in Goa. It is preserved in the New York Public Library. Another book printed in Goa in 1563 preserved in the British Museum[4] is *Coloquios dos simples-e-drogas,* [4] 'the Dialogues on Indian Plants and Drugs' by Garcia da Horta. This book contains the first account of

* The figures in brackets [ ] indicate the references in the list of books and plates reproduced in Vol. II.

Asiatic Cholera.[5] The printers of the *Compendio* were John of Quinquencio and John of Endem. Endem continued in Goa till 1573. His name is printed as printer on the *Dialagues*

Early Attempts in cutting Malabar Language Types

153. A Doctrina Christiana *ē lingoa Tamil and Portuguese* was printed in Lisbon in 1554. But it was in Latin Characters. The only copy of this work was discovered in the Museum Etnologico de Belem, Lisbon. This work is considered the first known printing in Tamil Language. Sacchini records " in 1577 a Spanish Lay-brother, Juan Gonsalvez, cut Malabar types by which was printed a catechism, not less for wonder than for the use of the Indian ". " Gonsalvez was born in 1525, entered the Society in Lisbon in 1555 took the simple vows in Goa in 1557 and was there, in feeble health, as preafectus fabricae domesticae et faber ferrarius " in 1575.[6] Gonsalvez resided at Ambalakkadu near Trichur. Souza records[7] Gonsalvez's death in 1580. Gonsalvez was a blacksmith skilled in making clocks and in the art of engraving. The catechism printed at Quilon in 1578 with the Malabar or Malayalam types cut by Gonsalvez was *Doctrina Christiana* [5] a sixteen page work translated into Tamil by Fr. Henrique Henriquez with the help of Fr. Manoel de Sao Pedro.

154. This work is believed to have been based on the Tamil Doctrina compiled by St. Francis Xavier of which Manuscript copies were distributed in the Fishery Coast Area. Malabar type was cut in Goa earlier and probably Tamil printing was also undertaken there. When Alessandro Valignano Visitor for India and Japan 1573-83 ordered printing of Catechism in the Indian languages a converted Brahmin Pedro Luis was sent to Goa to see to the printing.

155. The first Tamil printing *Doctrina Christiana* contains 16 pages printed on a single sheet in conventional octavo format. (14×10 cms.) On page 1 the name of the translator is mentioned in Tamil as Father Henrique Henriquez of the Company of Jesus.

155. Schurhammer and Cottrell who inspected this copy have given detailed discription of it in their article[9] in the *Harward College Bulletin:*

" The outer border and the inner border surrounding the woodcut are made up of two sizes of crosses and a diamond-headed sign which reappear on following pages. The woodcut represents the Trinity in glory, with the Holy Ghost above, God the Father and God the Sun-enthroned, and a throng of the elect bearing palms ranged below. This same cut appears on the title-page of the first two works printed

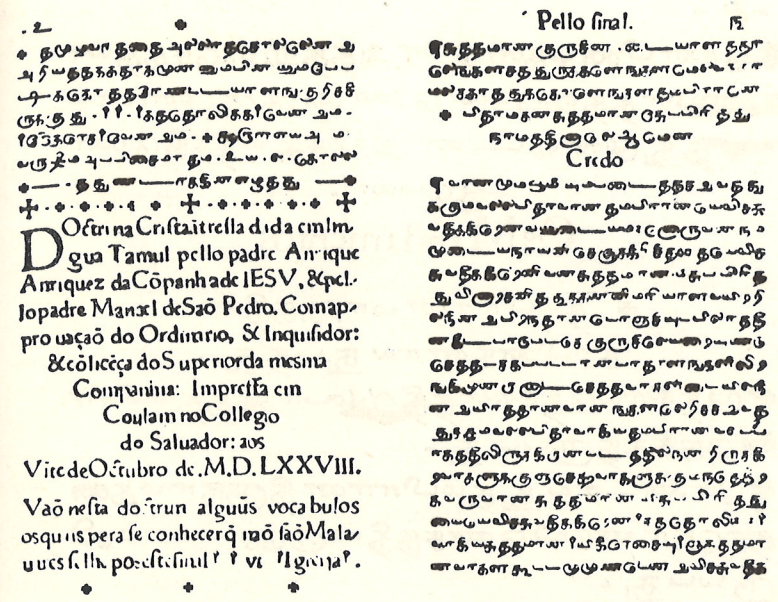


Fig. 65. **Pages 2 and 3 from Tamil Work *Doctrina Christiana* Quilon, 1578.**

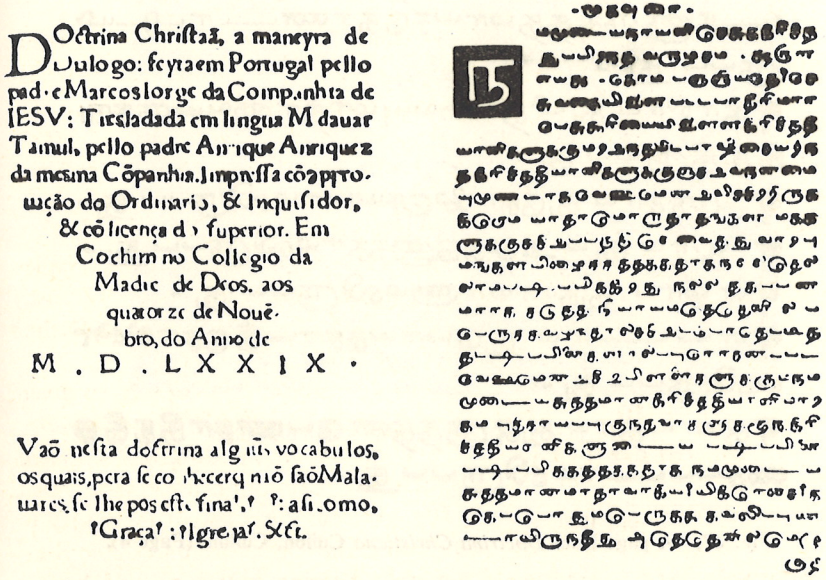


Fig. 66. **Pages 2 and 3 from Tamil Work *Doctrina Christiana* Cochin, 1579.**

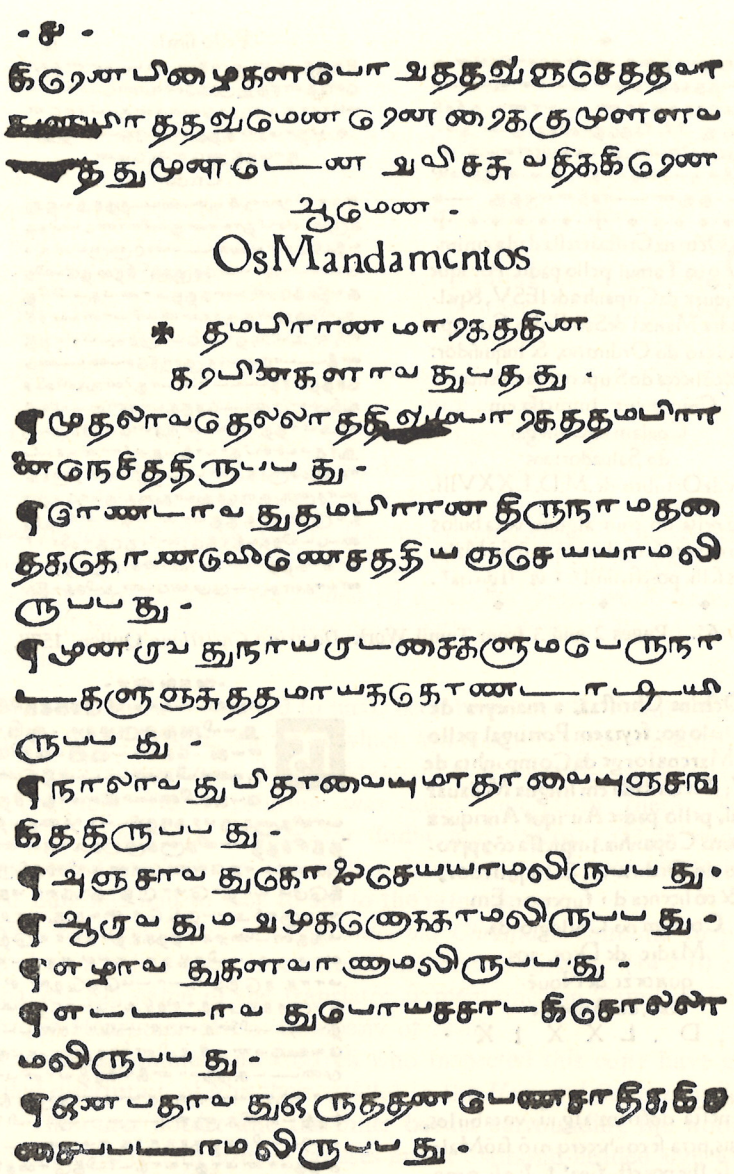
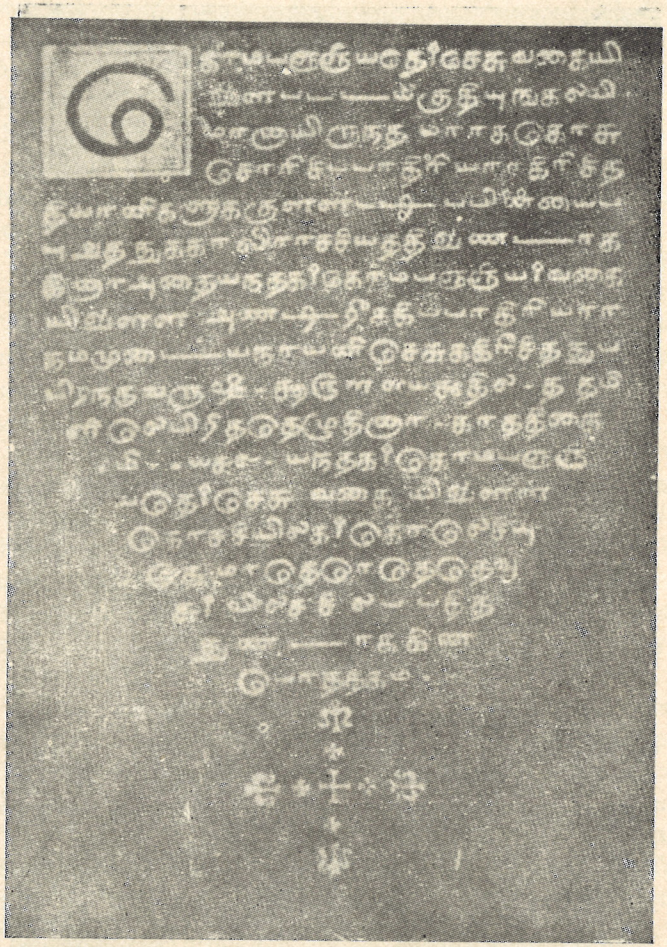
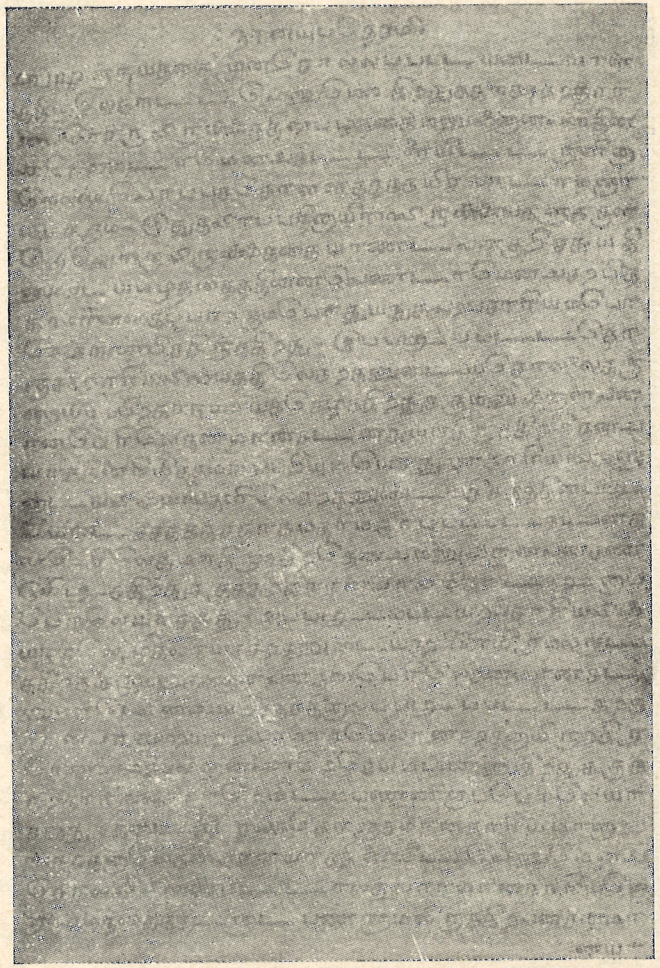


Fig. 67. **A page from *Doctrina Christiana* Cuilon, Cuilon. (Page 4).**



Colophon of the First printed Tamil book extunt.



Specimen page of Gnanoba desam an Ambalakkadu Tamil Book.

PLATE 80

by the Portuguese in Macao, the *Christiani pueri institutio* of Joao Bonifacio, 1588, and *De Missione legatorum Japonensium* by Valignano, 1590[10]. (These two works were also the first printing in European types on Chinese soil, the first printing by Europeans in China, 1584, having been in Chinese characters). Valignano may well have brought the block to India in 1574; it presumably accompanied his press from Macao to Japan in 1590 ".

" At the top of page 2 (Plate 65a) is a statement in Tamil concerning the use of the diamond-headed sign to indicate words in the text for which there are no Tamil equivalents and which are therefore left in Portuguese, transliterated by Tamil characters, as ' Catholico ' and ' Igerija '. Then comes the date in Tamil, ' One thousand five hundred and seventy-eight,' with the equivalent for 20 October, and then the phrase ' written and made at Quilon '. Below a row of crosses is the full Portuguese title, reading in English as follows : ' Doctrina Christiana ' translated into the Tamil language by Father Henrique Henriquez of the Company of Jesus, and by father Manoel de Sao Pedro. With the approval of the Ordinary, and Inquisitor, and with Licence of the superior of the same Company; printed in Quilon in the College of the Saviour : on the Twentieth of October ' MDLXXVIII.' Below this again is a repetition in Portuguese of the statement about the inclusion in the text of non-Tamil words ".

156. There are eighteen sections entirely in Tamil Characters spread over 13 pages. Portuguese headings are given for facility of use by the teacher.

" We now come to the last page (Plate 66) in many ways the most interesting of the sixteen. It is in actuality a type-specimen page. Below the page number (all pages except the first are numbered in Tamil characters) is a line of Tamil stating that ' this letter was made in Goa ', followed by a line in Portuguese repeating the information and adding the date, ' LXXVII '. Then come seven lines of a Tamil alphabet, to which the first two lines form an introduction. A second line of Portuguese then states: ' Tamil letter : made at Quilon : year of LXXVIII ', followed by the same information in Tamil, again with the date omitted. This pair of lines introduces a second and more extensive Tamil alphabet, of eleven lines, plus a line of Tamil figures (1-10,100, 1000). The page concludes with a Latin motto."

" The second and more extensive alphabet is that used for the Tamil printing of all preceding pages. It is executed with considerably more skill than the first alphabet. One can only suppose that the

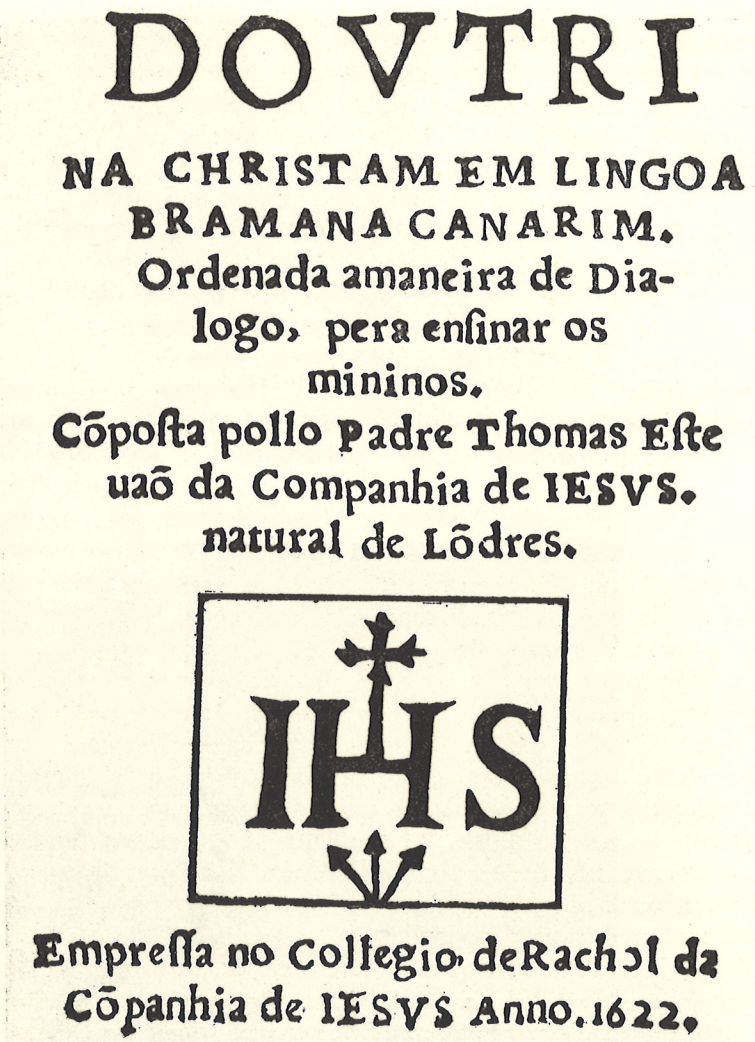
letter cut in Goa was displayed to show by comparison the advance in technique of the later work. In any case, no work printed in this Goa alphabet has come to light. Both alphabets are very close in form to the characters found in Tamil inscriptions and manuscripts of roughly the same period, and are much simpler than the modern characters, which are florid in style."

157. Another *Doctrina* [6] comprising of 120 pages (14×10 cms.) was printed in 1579 in Coachin. It is a translation of the catechism in dialogue form composed by Fr. Marcos Jorge and printed in Lisbon in 1566. The translation was undertaken by Fr. Henrique Henriquez at the instance of Alessandro Valignano visitor for India and Japan 1573-83. The Title page of the 1578 Doctrina is printed in the *Memories of the Madras Library Association* by Warren[11]. The pages reproduced in Figures 65 and 66 are taken from the article in the Harward College Bulletin referred to above.

Cutting of Indian Language Types

158. Gonsalves thought of preparing *Kanarim* or Devanagari types and did actually[12] cast fifty types in 1577. But this work was given up as Gonsalves died in 1578 and his companion Fr. Joao de Faria, who could have continued the same, also died in 1582. Irregular construction of certain Devanagari letters has been the obstacle before the type-founders from the very beginning. Fr. G. C. Rodeles refers to this aspect when he says that "Gonsalves did actually think of preparing *Canarese* type, but did not pursue the idea on account of the clumsy shapes of the characters, the irregularity of pronounciation and the limited area in which the language was spoken."[13] Fr. Schutte writes in this connection " The multiplicity and difficult reproduction of letters, also meagre prospects of a wide publicity of books (printed) in *Kanarim* types however finally scared away the Brother printer."[14]

159. Fr. Thomas Stephens desired to print his books in Devanagari. But he could not achieve his desires " because it looked impossible to cast so many moulds amounting to six hundred, whilst the characters are syllables and not alphabets as our twenty-four in Europe " writes[15] Stephens from Salsette, Goa, on December 5, 1608. His *Purāṇa*[7] was printed in Goa in 1616 in Roman types. No copy of this first printed Marathi Book is available. So also is the fate of copies of two subsequent editions published in 1649 and 1654. Copies of the fourth edition printed in 1907 in Mangalore[16] are however available. *Doutrinā Christam*[8] written in the dialect spoken by Goa Brahmins was printed in


DOVTRI

NA CHRISTAM EM LINGOA
BRAMANA CANARIM.
Ordenada amaneira de Dia-
logo, pera enſinar os
mininos.
Cõpoſta pollo Padre Thomas Eſte
uaõ da Companhia de IESVS.
natural de Lõdres.

IHS

Empreſſa no Collegio deRachol da
Cõpanhia de IESVS Anno.1622.

Fig. 68. **Doutrina Christam em Lingoa Concani Goa 1622.**